

**Iowa Department of Natural Resources
Title V Operating Permit**

Name of Permitted Facility: Equistar Chemicals, LP
Facility Location: 3400 Anamosa Road
Clinton, Iowa 52732

Air Quality Operating Permit Number: 04-TV-008-M001

Expiration Date: June 14, 2009

Permit Renewal Application Deadline: December 14, 2008

EQ Number: 92-4291

Facility File Number: 23-01-004

Responsible Official

Name: Mr. Courtney Ruth
Title: Plant Manager
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Permit Contact Person for the Facility

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Title: Environmental Superintendent
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PO Box 2919
Clinton, Iowa 52732
Phone #: (563) 244-2240

This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

For the Director of the Department of Natural Resources

Douglas A. Campbell, Supervisor of Air Operating Permits Section

Date

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Abbreviations

acfm.....	actual cubic feet per minute
CE	control equipment
CEM.....	continuous emission monitor
cfm	cubic feet per minute
CFR.....	Code of Federal Regulations
DAC	De-Butanized Aromatic Concentrate
EIQ.....	Emissions inventory questionnaire
EP	emission point
EU	emission unit
°F	Degrees Fahrenheit
gpm	Gallons per minute
gr./dscf	Grains per dry standard cubic foot
IAC.....	Iowa Administrative Code
IDNR.....	Iowa Department of Natural Resources
lb./hr	Pounds per hour
lb./MMBtu	Pounds per million British thermal units
MSI	Mineral Solutions Incorporated
MMgal/hr	Million gallons per hour
MVAC.....	Motor vehicle air conditioner
N/A.....	Not Applicable
NAICS.....	North American Industry Classification System
NSPS	New source performance standards
ppmv	Parts per million by volume
ppmw.....	Parts per million by weight
PSD	Prevention of Significant Deterioration
scfm.....	standard cubic feet per minute
SIC	Standard Industrial Classification
SCC	Source Classification Codes
Ton/hr.....	Tons per hour
tpy	Tons per year
USEPA.....	United States Environmental Protection Agency
VMT.....	Vehicle Mile Traveled

Pollutants

PM.....	Particulate matter
PM ₁₀	Particulate matter ten microns and less in diameter
SO ₂	Sulfur dioxide
NO _x	Nitrogen oxides
VOC	Volatile organic compounds
CO	Carbon monoxide
HAP.....	Hazardous air pollutants

I. Facility Description and Equipment List

Facility Name: Equistar Chemicals, LP

Permit Number: 04-TV-008-M001

Facility Description: Industrial Organic Chemicals (SIC 2869) and Plastics, Resins (SIC 2821)

Equipment List ^(*)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
Ethylene Plant			
EP001-P	EP001-U	LB-0101A A-Furnace	N/A
EP002-P	EP002-U	LB-0101B B-Furnace	N/A
EP003-P	EP003-U	LB-0101C C-Furnace	N/A
EP004-P	EP004-U	LB-0101D D-Furnace	N/A
EP005-P	EP005-U	LB-0101E E-Furnace	N/A
EP006-P	EP006-U	LB-0101F F-Furnace	N/A
EP007-P	EP007-U	LB-0101G G-Furnace	N/A
EP008-P	EP008-U	LB-0101H H-Furnace	N/A
EP009-P	EP009-U	LB-0101I I-Furnace	N/A
EP010-P	EP010-U	LB-0101J J-Furnace	N/A
EP011-P	EP011-U	LB-0107A K-Furnace	N/A
EP012-P	EP012-U	LB-0107B L-Furnace	N/A
EP013-P	EP013-U	LB-0120 M-Furnace	89-A-030
EP014-P	EP014-U	B-0103 Gas Drier	N/A
EP015E-P	EP015D-U	LB-0102A A-Boiler (Distillate Oil Fired)	89-A-028
EP015W-P	EP015F-U	LB-0102A A-Boiler (Fuel Gas Fired)	
EP016E-P	EP016D-U	LB-0102B B-Boiler (Distillate Oil Fired)	89-A-029
EP016W-P	EP016F-U	LB-0102B B-Boiler (Fuel Gas Fired)	
EP017-P	EP017-U	LB-0105 C-Boiler (Natural Gas Fired)	N/A
EP018-P	EP018D-U	LB-0106A D-Boiler (Distillate Oil Fired)	N/A
	EP018F-U	LB-0106A D-Boiler (Natural Gas Fired)	
EP019-P	EP019D-U	LB-0106B E-Boiler (Distillate Oil Fired)	N/A
	EP019F-U	LB-0106B E-Boiler (Natural Gas Fired)	
EP020H-P	EP020H-U	U-2202 Cooling Tower	N/A

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
EP020I-P	EP020I-U	U-2202 Cooling Tower	N/A
EP020J-P	EP020J-U	U-2202 Cooling Tower	N/A
EP020K-P	EP020K-U	UJ-2210 Cooling Tower	N/A
EP020L-P	EP020L-U	UJ-2210 Cooling Tower	N/A
EP020M-P	EP020M-U	UJ-2210 Cooling Tower	N/A
EP020N-P	EP020N-U	UJ-2210 Cooling Tower	N/A
EP020O-P	EP020O-U	UJ-2210 Cooling Tower	N/A
EP020P-P	EP020P-U	UJ-2210 Cooling Tower	N/A
EP020Q-P	EP020Q-U	UJ-2210 Cooling Tower	N/A
EP020R-P	EP020R-U	UJ-2210 Cooling Tower	N/A
EP020S-P	EP020S-U	UJ-2210 Cooling Tower	N/A
EP020T-P	EP020T-U	UJ-2210 Cooling Tower	N/A
EP020U-P	EP020U-U	UJ-2210 Cooling Tower	N/A
EP020V-P	EP020V-U	UJ-2210 Cooling Tower	N/A
EP021-P	EP021-U	Ethylene Unit Fugitive	N/A
EP022-P	EP022A-U	DAC Barge	N/A
	EP022B-U	DAC Truck	N/A
	EP022C-U	Residual Oil Truck	N/A
	EP022D-U	DAC Rail Car	N/A
EP023-P	EP023-U	F-2105 DAC Tank	N/A
EP024-P	EP024-U	F-2132 DAC Tank	N/A
EP025-P	EP025-U	F-2147 DAC Tank	N/A
EP030-P	EP030-U	A-2408A & B Primary Clarifiers	N/A
EP031-P	EP031-U	Cold Vent Header	N/A
EP032-P	EP032A-U	B-2201 DAC Flare Tip (Burner)	90-A-065-S2
	EP032B-U	B-2201 DAC Flare (DAC Vapors)	
EP033-P	EP033A-U	B-2401 Ethylene Flare Tip (Burner)	00-A-911-S2
	EP033B-U	B-2401 Ethylene Flare Exhaust (Vent Gases)	
	EP033C-U	Diglycolamine (DGA) Unit, Custom-Built	
	EP037-U	H-120 Ethylene Analyzer House	
	EP047-U	H-107B Ethylene Analyzer House	
	Not assigned	Isobutane Recovery System	
EP037A-P	EP037A-U	Plant Insignificant Activities	N/A
EP038-P	EP038-U	F-0154 Furnace Decoke Pot	N/A
EP039-P	EP039-U	F-0154A Furnace Decoke Pot	N/A
EP040-P	EP040-U	B-0107 Regeneration Gas Heater	97-A-804-S1
EP041-P	EP041-U	Plant Incidental Releases	N/A
EP042N-P	EP042-U	J-0102 Propylene Refrigeration Compressor	N/A

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
EP042S-P			N/A
EP043N-P	EP043-U	J-0103 Ethylene Refrigeration Compressor	N/A
EP043S-P			N/A
EP044E-P	EP044-U	J-0104 Ethylene Refrigeration Compressor	N/A
EP044W-P			N/A
EP045-P	EP045-U	OAH Tripod Temporary Smokeless Flare	N/A
EP048-P	EP048-U	H-108B Ethylene Analyzer House	N/A
EP049-P	EP049-U	H-112B Ethylene Analyzer House	N/A
EP050-P	EP050-U	H-115B Ethylene Analyzer House	N/A
EP051-P	EP051-U	E-118 Quench Water Stripper Blowdown	N/A
EP052-P	EP052-U	E-129 Caustic Stripper Blowdown	N/A
EP053-P	EP053-U	US Filter Brine Silo (1 of 2)	01-A-1231
EP054-P	EP054-U	US Filter Brine Silo (2 of 2)	03-A-547
High Density Polyethylene Production Lines			
HD001A-P	HD001A-U	PF-4 Analyzer House	N/A
HD001B-P	HD001B-U	PF-1 Bottom Analyzer House	N/A
HD002N-P	HD002-U	C-0316 Gas1(D-0307) Activator Jacket Heater	N/A
HD002S-P			N/A
HD004-P	HD004-U	F-0401A PF-1 Rundown Bin	N/A
HD005-P	HD005-U	F-0401B PF-1 Rundown Bin	N/A
HD006-P	HD006-U	F-0401C PF-1 Rundown Bin	N/A
HD007-P	HD007-U	F-0401D PF-1 Rundown Bin	N/A
HD008N-P	HD008A-U	F-0411C PF-3 Rundown Bin Through L-1417B Bag House	94-A-110
	HD008B-U	F-0411D PF-3 Rundown Bin Through L-1417B Bag House	
	HD008C-U	F-0431C PF-2 Rundown Bin Through L-1417B Bag House	
	HD008D-U	F-0431D PF-2 Rundown Bin Through L-1417B Bag House	
HD008S-P	HD008E-U	F-0411A PF-3 Rundown Bin Through L-1417A Bag House	94-A-109
	HD008F-U	F-0411B PF-3 Rundown Bin Through L-1417A Bag House	
	HD008G-U	F-0431A PF-2 Rundown Bin Through L-1417A Bag House	
	HD008H-U	F-0431B PF-2 Rundown Bin Through L-1417A Bag House	

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
HD009N-P	HD009A-U	F-0439A PF-4 Rundown Bin Through L-1416B Bag House	93-A-158
	HD009B-U	F-0439B PF-4 Rundown Bin Through L-1416B Bag House	
	HD009C-U	F-0439C PF-4 Rundown Bin Through L-1416B Bag House	
	HD009D-U	F-0439D PF-4 Rundown Bin Through L-1416B Bag House	
HD009S-P	HD009E-U	F-0439E PF-4 Rundown Bin Through L-1416A Bag House	93-A-157
	HD009F-U	F-0439F PF-4 Rundown Bin Through L-1416A Bag House	
	HD009G-U	F-0439G PF-4 Rundown Bin Through L-1416A Bag House	
	HD009H-U	F-0439H PF-4 Rundown Bin Through L-1416A Bag House	
HD010-P	HD010-U	F-0415A J-line Feed Bin	78-A-075
HD011-P	HD011-U	F-0415B J-line Feed Bin	
HD012-P	HD012-U	F-0421A A-line Feed Bin	N/A
HD013-P	HD013-U	F-0421B B-line Feed Bin	N/A
HD014-P	HD014-U	F-0422A A-line Feed Bin	N/A
HD015-P	HD015-U	F-0422B B-line Feed Bin	N/A
HD016-P	HD016-U	F-0423A A-line Feed Bin	N/A
HD017-P	HD017-U	F-0423B B-line Feed Bin	N/A
HD018-P	HD018-U	F-0462 F-line Feed Bin	89-A-065
HD019-P	HD019-U	F-0463 F-line Feed Bin	
HD020-P	HD020-U	F-0918 PF4 Surge hopper	N/A
HD021-P	HD021-U	J-0303A PF-1 Recycle Compressor	N/A
HD022-P	HD022-U	J-0303B PF-1 Recycle Compressor	N/A
HD023-P	HD023-U	J-0305A PF-1 Recycle IC4 Pump	N/A
HD024-P	HD024-U	J-0305B PF-1 Recycle IC4 Pump	N/A
HD025-P	HD025-U	J-0306A PF-1 Fresh IC4 Pump	N/A
HD026-P	HD026-U	J-0306B PF-1 Fresh IC4 Pump	N/A
HD027-P	HD027-U	J-0603 PF-2/3 Recycle Compressor	N/A
HD028-P	HD028-U	J-0604 PF-2/3 Recycle Compressor	N/A
HD029-P	HD029-U	J-0605 PF-2/3 Recycle Compressor	N/A
HD030-P	HD030-U	J-0611 PF-2/3 Recycle IC4 Pump	N/A
HD031-P	HD031-U	J-0612 PF-2/3 Recycle IC4 Pump	N/A
HD032-P	HD032-U	J-0613 PF-2/3 Recycle IC4 Pump	N/A

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
HD033-P	HD033-U	J-0623 IC4 Recovery Compressor	N/A
HD034-P	HD034-U	J-0902A PF-4 Recycle IC4 Transfer Pump	N/A
HD035-P	HD035-U	J-0902B PF-4 Recycle IC4 Transfer Pump	N/A
HD036-P	HD036-U	J-0908A PF-4 Recycle Compressor	N/A
HD037-P	HD037-U	J-0908B PF-4 Recycle Compressor	N/A
HD038-P	HD038-U	J-0908C PF-4 Recycle Compressor	N/A
HD039-P	HD039-U	J-0301 PF-1 Reactor Pump	N/A
HD040-P	HD040-U	J-0601 PF-3 Reactor Pump	N/A
HD041-P	HD041-U	J-0602 PF-2 Reactor Pump	N/A
HD042-P	HD042-U	J-0903 PF-4 Reactor Pump	N/A
HD043-P	HD043-U	L-0302 PF-1 Purge Conveyor	N/A
HD044-P	HD044-U	L-0603 PF-3 Purge Conveyor	N/A
HD045-P	HD045-U	L-0604 PF-2 Purge Conveyor	N/A
HD046-P	HD046-U	VF-0402 PF-1 Surge Bin	N/A
HD047-P	HD047-U	VF-0432A PF-3 Surge Bin	N/A
HD048-P	HD048-U	VF-0432B PF-2 Surge Bin	N/A
HD049A-P	HD049A-U	Scrubber for GAS1 D-0307	N/A
HD049C-P	HD049C-U	Scrubber for Electric1 D-0310	03-A-1013
HD050A-P	HD050A-U	L-0426A A-Line Dust Collector	N/A
HD050B-P	HD050B-U	L-0426B B-Line Dust Collector	N/A
HD050C-P	HD050C-U	L-0470 F-Line Dust Collector	89-A-070
HD050D-P	HD050D-U	L-0410 J-Line Dust Collector	03-A-1014
HD051-P	HD051-U	J-1402 Additive Vacuum System	03-A-1015
HD052-P	HD052-U	F-0402A PF Storage Bin	N/A
HD053-P	HD053-U	F-0402B PF Storage Bin	N/A
HD054-P	HD054-U	F-0402C PF Storage Bin	N/A
HD055-P	HD055-U	F-0402D PF Storage Bin	N/A
HD056-P	HD056-U	F-0402E PF Storage Bin	N/A
HD057-P	HD057-U	F-0432A PF Storage Bin	N/A
HD058-P	HD058-U	F-0432B PF Storage Bin	N/A
HD059-P	HD059-U	F-0432C PF Storage Bin	N/A
HD060-P	HD060-U	F-0432D PF Storage Bin	N/A
HD061-P	HD061-U	F-0432E PF Storage Bin	N/A

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
HD062-P	HD062-U	F-0412A PF Storage Bin	78-A-074
HD063-P	HD063-U	F-0412B PF Storage Bin	
HD064-P	HD064-U	F-0412C PF Storage Bin	
HD065-P	HD065-U	F-0412D PF Storage Bin	
HD066-P	HD066-U	F-0412E PF Storage Bin	
HD067-P	HD067-U	F-0412F PF Storage Bin	
HD068-P	HD068-U	F-0412G PF Storage Bin	
HD069-P	HD069-U	F-0412H PF Storage Bin	
HD070-P	HD070-U	F-0412J PF Storage Bin	
HD071-P	HD071-U	F-0412K PF Storage Bin	
HD072-P	HD072-U	F-0404A Plexar Storage/Feed Bin	80-A-075
HD073-P	HD073-U	F-0404B Plexar Storage/Feed Bin	80-A-076
HD074-P	HD074-U	F-0404C Plexar Rundown Bin	N/A
HD075-P	HD075-U	F-0444A Pellet Blender	N/A
HD076-P	HD076-U	F-0444B Pellet Blender	N/A
HD077-P	HD077-U	F-0444C Pellet Blender	89-A-067 89-A-068
HD078-P	HD078-U	F-0444D Pellet Blender	
HD079-P	HD079-U	F-0444E Pellet Blender	
HD080-P	HD080-U	F-0444F Pellet Blender	
HD081-P	HD081-U	F-0441A Pellet Blender	N/A
HD082-P	HD082-U	F-0441B Pellet Blender	N/A
HD083-P	HD083-U	F-0445 Pellet Blender	N/A
HD084-P	HD084-U	F-0437A Pellet Blender	89-A-067 89-A-068
HD085-P	HD085-U	F-0437B Pellet Blender	
HD086-P	HD086-U	F-0437C Pellet Blender	
HD087-P	HD087-U	F-0437D Pellet Blender	
HD088-P	HD088-U	F-0437E Pellet Blender	
HD089-P	HD089-U	F-0437F Pellet Blender	
HD090-P	HD090-U	F-0437G Pellet Blender	
HD091-P	HD091-U	F-0437H Pellet Blender	
HD092-P	HD092-U	F-0443A Pellet Storage Bin	N/A
HD093-P	HD093-U	F-0443B Pellet Storage Bin	N/A
HD094-P	HD094-U	F-0443C Pellet Storage Bin	N/A
HD095-P	HD095-U	F-0443D Pellet Storage Bin	N/A
HD096-P	HD096-U	F-0443E Pellet Storage Bin	N/A
HD097-P	HD097-U	F-0443F Pellet Storage Bin	N/A
HD098-P	HD098-U	F-0443G Pellet Storage Bin	N/A
HD099-P	HD099-U	F-0443H Pellet Storage Bin	N/A

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
HD100-P	HD100-U	F-0443J Pellet Storage Bin	N/A
HD101-P	HD101-U	F-0443K Pellet Storage Bin	N/A
HD102-P	HD102-U	F-0443L Pellet Storage Bin	N/A
HD103-P	HD103-U	F-0443M Pellet Blending Silo	N/A
HD104-P	HD104-U	F-0447A Divert Quad Bin	N/A
HD105-P	HD105-U	F-0447B Divert Quad Bin	N/A
HD106-P	HD106-U	F-0447C Divert Quad Bin	N/A
HD107-P	HD107-U	F-0447D Divert Quad Bin	N/A
HD108-P	HD108-U	High Density Fugitives	N/A
HD109-P	HD109-U	F-0438A Divert Quad Bin	N/A
HD110-P	HD110-U	F-0438B Divert Quad Bin	N/A
HD111-P	HD111-U	F-0438C Divert Quad Bin	N/A
HD112-P	HD112-U	F-0438D Divert Quad Bin	N/A
HD113-P	HD113-U	F-0442A Divert Quad Bin	N/A
HD114-P	HD114-U	F-0442B Divert Quad Bin	N/A
HD115-P	HD115-U	F-0442C Divert Quad Bin	N/A
HD116-P	HD116-U	F-0442D Divert Quad Bin	N/A
HD117-P	HD117-U	L-0918 PF4 Purge Conveyor	N/A
HD118-P	HD118-U	F-0425 Plexar Maleic Anhydride Tank	N/A
HD119-P	HD119-U	L-0428A A-line Pellet Dryer	N/A
HD120-P	HD120-U	L-0428B B-line Pellet Dryer	N/A
HD121-P	HD121-U	L-1409 F-line Spin Dryer	89-A-066 89-A-069
HD122-P	HD122-U	L-0413 J-line Spin Dryer	N/A
HD123-P	HD123-U	L-0406A Plexar Graft Dryer	N/A
HD124-P	HD124-U	L-0477 D-line Pellet Dryer	N/A
HD125-P	HD125-U	L-0487 E-line Pellet Dryer	N/A
HD126-P	HD126-U	F-0455 E-Line Feed Bin	N/A
HD127-P	HD127-U	F-0456 E-Line Feed Bin	N/A
HD128-P	HD128-U	F-0464 D-Line Feed Bin	N/A
HD129-P	HD129-U	F-0465 D-Line Feed Bin	N/A
HD130A-P	HD130-U	F-0498 E-Line Additive Bin	03-A-1016
HD130B-P			03-A-1017
HD132A-P	HD132-U	F-0497 D-Line Additive Bin	03-A-1018
HD132B-P			03-A-1019
HD134-P	HD134-U	L-4001 Plexar Extruder	N/A
HD135-P	HD135A-U	F-0410A Quality Control Bin	03-A-1020
	HD135B-U	F-0410B Quality Control Bin	

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
HD136-P	HD136-U	F-0408 Plexar Weigh Hopper	80-A-077
HD137-P	HD137-U	J-0316A Hexene Transfer Pump	N/A
HD138-P	HD138-U	J-0316B Hexene Transfer Pump	N/A
HD139-P	HD139-U	J-0304A Iso-Butane Reflux Pump	N/A
HD140-P	HD140-U	J-0304B Iso-Butane Reflux Pump	N/A
HD141-P	HD141-U	DB-0910 Gas 2 (D-0910) Activator Jacket Heater	99-A-422
HD142-P		F-0926 Gas 2 Activator External Filter	90-A-406-S4
HD143-P		Gas II Catalyst Activator	01-A-585
Low Density Polyethylene Production Lines			
LD001-P	LD001-U	F-2134A VA Tank	N/A
LD002-P	LD002-U	F-2134B VA Tank	N/A
LD003-P	LD003-U	F-2126 VA Tank	N/A
LD004-P	LD004-U	F-2148 VA Tank	N/A
LD005E-P	LD005-U	D-0201 LD-1 Reactor (Depressure Emissions)	97-A-807
LD005W-P		D-0201 LD-1 Reactor (Rupture Disc Emissions)	97-A-808
LD006N-P	LD006-U	D-0702A LD-2A Reactor (North Rupture Disc Emissions)	N/A
LD006S-P		D-0702A LD-2A Reactor (South Rupture Disc Emissions)	N/A
LD006W-P		D-0702A LD-2A Reactor (Depressure Emissions)	N/A
LD007N-P	LD007-U	D-0702B LD-2B Reactor (North Rupture Disc Emissions)	N/A
LD007S-P		D-0702B LD-2B Reactor (South Rupture Disc Emissions)	N/A
LD007W-P		D-0702B LD-2B Reactor (Depressure Emissions)	N/A
LD008E-P	LD008-U	D-0801 LD-3 Reactor (East Rupture Disc Emissions)	97-A-647
LD008S-P		D-0801 LD-3 Reactor (Depressure Emissions)	97-A-648
LD008W-P		D-0801 LD-3 Reactor (West Rupture Disc Emissions)	97-A-649
LD009-P	LD009-U	F-0712A VA Tower Product Rundown Tank	N/A
LD010-P	LD010-U	F-0712B VA Tower Product Rundown Tank	N/A

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
LD011-P	LD011-U	F-0711 VA Tower Bottoms Rundown Tank	N/A
LD012-P	LD012-U	F-0739 VA Tower Feed Tank	N/A
LD013-P	LD013-U	F-0751 VA Storage Tank	N/A
LD014-P	LD014-U	L-0207A LD-1 "A" Spin Dryer	97-A-809
LD015-P	LD015-U	L-0207B LD-1 "B" Spin Dryer	97-A-810
LD016-P	LD016-U	L-0210 LD-1 "C" Spin Dryer	97-A-811
LD017A-P	LD017A-U	LD-2A Dewatering Bin	94-A-137
LD017B-P	LD017B-U	L-0738A LD-2A Spin Dryer	94-A-138
LD018A-P	LD018A-U	LD-2B Dewatering Bin	94-A-111
LD018B-P	LD018B-U	L-0738B LD-2B Spin Dryer	94-A-112
LD019-P	LD019-U	L-0838 LD-3 Dewatering Bin & Spin Dryer	97-A-650-S1
LD020-P	LD020-U	F-0451A LD-1 Rundown Blender	97-A-812
LD021-P	LD021-U	F-0451B LD-1 Rundown Blender	97-A-813
LD022-P	LD022-U	F-0451C LD-1 Rundown Blender	97-A-814
LD023-P	LD023-U	F-0451D LD-1 Rundown Blender	97-A-815
LD024-P	LD024-U	F-0451E LD-1 Rundown Blender	97-A-816
LD025-P	LD025-U	F-0451F LD-1 Rundown Blender	97-A-817
LD026-P	LD026-U	F-0457A LD-2B Rundown Blender	N/A
LD027-P	LD027-U	F-0457B LD-2A Rundown Blender	N/A
LD028-P	LD028-U	F-0457C LD-2A Rundown Blender	N/A
LD029-P	LD029-U	F-0457D LD-2A Rundown Blender	N/A
LD030-P	LD030-U	F-0457E LD-2B Rundown Blender	N/A
LD031-P	LD031-U	F-0457F LD-2B Rundown Blender	N/A
LD032-P	LD032-U	F-0457G LD-2 Spare Blender	N/A
LD033-P	LD033-U	F-0457H LD-2 Spare Blender	N/A
LD034-P	LD034-U	F-0457J LD-2 Spare Blender	N/A
LD035-P	LD035-U	F-0458A E Line Rundown Blender	N/A
LD036-P	LD036-U	F-0458B E Line Rundown Blender	N/A
LD037-P	LD037-U	F-0458C E Line Rundown Blender	N/A
LD038-P	LD038-U	F-0458D D Line Rundown Blender	N/A
LD039-P	LD039-U	F-0458E D Line Rundown Blender	N/A
LD040-P	LD040-U	F-0458F D Line Rundown Blender	N/A
LD041-P	LD041-U	F-0459A LD-2/3 Rundown Storage Bin	97-A-685
LD042-P	LD042-U	F-0459B LD-2/3 Rundown Storage Bin	97-A-686
LD043-P	LD043-U	F-0459C LD-2/3 Rundown Storage Bin	97-A-687
LD044-P	LD044-U	F-0459D LD-2/3 Rundown Storage Bin	97-A-688
LD045-P	LD045-U	F-0459E LD-3 Rundown Blender	97-A-689
LD046-P	LD046-U	F-0459F LD-3 Rundown Blender	97-A-690

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
LD047-P	LD047-U	F-0459G LD-3 Rundown Blender	97-A-691
LD048-P	LD048-U	F-0459H LD-3 Rundown Blender	97-A-692
LD049-P	LD049-U	F-0459J LD-3 Rundown Blender	97-A-693
LD050-P	LD050-U	F-0459K LD-3 Rundown Blender	97-A-694
LD051-P	LD051-U	F-0459L LD-2/3 Rundown Storage Bin	97-A-695
LD052-P	LD052-U	F-0459M LD-2/3 Rundown Storage Bin	97-A-696
LD053-P	LD053-U	F-0459N LD-2/3 Rundown Storage Bin	97-A-697
LD054-P	LD054-U	F-0459P LD-2/3 Rundown Storage Bin	97-A-698
LD055-P	LD055-U	F-0459Q LD-2/3 Rundown Storage Bin	97-A-699
LD056-P	LD056-U	F-0459R LD-2/3 Rundown Storage Bin	97-A-700
LD057-P	LD057-U	F-0459S LD-2/3 Rundown Storage Bin	97-A-701
LD058-P	LD058-U	F-0459T LD-2/3 Rundown Storage Bin	97-A-702
LD059-P	LD059-U	F-0459U LD-2/3 Rundown Storage Bin	97-A-703
LD060-P	LD060-U	F-0453A LD-1 Storage Bin	97-A-818
LD061-P	LD061-U	F-0453B LD-1 Storage Bin	97-A-819
LD062-P	LD062-U	F-0453C LD-1 Blending Silo	97-A-820
LD063-P	LD063-U	F-0453D Finishing Storage Bin	N/A
LD064-P	LD064-U	F-0453E Finishing Storage Bin	N/A
LD065-P	LD065-U	F-0453F LD-1 Storage Bin	97-A-821
LD066-P	LD066-U	F-0453G LD-1 Storage Bin	97-A-822
LD067-P	LD067-U	F-0453H LD-1 Storage Bin	97-A-823
LD068-P	LD068-U	F-0453J Finishing Storage Bin	N/A
LD069-P	LD069-U	F-0453K Finishing Storage Bin	N/A
LD070-P	LD070-U	F-0453L LD-1 Storage Bin	97-A-824
LD071-P	LD071-U	F-0453M LD-1 Storage Bin	97-A-825
LD072-P	LD072-U	F-0453N LD-1 Storage Bin	97-A-826
LD073-P	LD073-U	F-0453P LD-1 Storage Bin	97-A-827
LD074-P	LD074-U	F-0453Q LD-1 Storage Bin	97-A-828
LD075-P	LD075-U	F-0453R LD-1 Storage Bin	97-A-829
LD076-P	LD076-U	F-0453S LD-1 Storage Bin	97-A-830
LD077-P	LD077-U	F-0454A LD-1 Storage Bin	97-A-831
LD078-P	LD078-U	F-0454B LD-1 Storage Bin	97-A-832
LD079-P	LD079-U	F-0454C LD-1 Storage Bin	97-A-833
LD080-P	LD080-U	F-0454D LD-1 Storage Bin	97-A-834
LD081-P	LD081-U	F-0454E LD-1 Storage Bin	97-A-835
LD082-P	LD082-U	F-0454F LD-1 Storage Bin	97-A-836
LD083-P	LD083-U	Low Density Unit Fugitives	N/A
LD084-P	LD084-U	F-0452A LD-1 Quad Storage Bin	97-A-837

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
LD085-P	LD085-U	F-0452B LD-1 Quad Storage Bin	97-A-838
LD086-P	LD086-U	F-0452C LD-1 Quad Storage Bin	97-A-839
LD087-P	LD087-U	F-0452D LD-1 Quad Storage Bin	97-A-840
LD088-P	LD088-U	F-0452E LD-1 Quad Storage Bin	97-A-841
LD089-P	LD089-U	F-0452F LD-1 Quad Storage Bin	97-A-842
LD090-P	LD090-U	F-0452G LD-1 Quad Storage Bin	97-A-843
LD091-P	LD091-U	F-0452H LD-1 Quad Storage Bin	97-A-844
LD092-P	LD092-U	F-0452J LD-2/3 Quad Storage Bin	97-A-651
LD093-P	LD093-U	F-0452K LD-2/3 Quad Storage Bin	97-A-652
LD094-P	LD094-U	F-0452L LD-2/3 Quad Storage Bin	97-A-653
LD095-P	LD095-U	F-0452M LD-2/3 Quad Storage Bin	97-A-654
LD096-P	LD096A-U	J-0201A LD-1 "A" Make Up Compressor	97-A-845
	LD096B-U	J-0202A LD-1 "A" Purge Compressor	97-A-846
LD097-P	LD097A-U	J-0201B LD-1 "B" Make Up Compressor	97-A-847
	LD097B-U	J-0202B LD-1 "B" Purge Compressor	97-A-848
LD098-P	LD098-U	J-0202C LD-1 Purge Booster Compressor	97-A-849
LD099-P	LD099-U	J-0203A LD-1 "A" Recycle Compressor	97-A-850
LD100-P	LD100-U	J-0203B LD-1 "B" Recycle Compressor	97-A-851
LD101-P	LD101-U	J-0204A LD-1 "A" Hyper Compressor	97-A-852
LD102-P	LD102-U	J-0204B LD-1 "B" Hyper Compressor	97-A-853
LD103-P	LD103-U	J-0223 LD-1 Recycle Compressor	97-A-854
LD104-P	LD104-U	J-0224 LD-1 Hyper Compressor	97-A-855
LD105-P	LD105A-U	J-0701A LD-2A Primary/Flash Gas Compressor	N/A
	LD105B-U	F-0701A LD-2A Make Up Gas Suction Drum	
	LD105C-U	F-0705A LD-2A Purge Compressor Suction Drum	
LD106-P	LD106A-U	J-0701B LD-2B Primary/Flash Gas Compressor	N/A
	LD106B-U	F-0701B LD-2B Make Up Gas Suction Drum	
	LD106C-U	F-0705B LD-2B Purge Compressor Suction Drum	
LD107-P	LD107-U	J-0702A LD-2A Secondary Compressor	N/A
LD108-P	LD108-U	J-0702B LD-2B Secondary Compressor	N/A
LD109-P	LD109A-U	J-0801 LD-3 Primary/Flash Gas Compressor	97-A-655
	LD109B-U	J-0802 LD-3 Secondary Compressor	
LD110-P	LD110-U	LD-1 Wax Works	97-A-856
LD111-P	LD111-U	LD-2A Wax Works	N/A
LD112-P	LD112-U	LD-2B Wax Works	N/A

Equipment List^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
LD113-P	LD113-U	LD 3 Wax Works	97-A-656
LD114-P	LD114A-U	F-0201 LD-1 Make-Up Gas Suction Drum	97-A-857
LD114-P	LD114B-U	F-0205 LD-1 Purge Compressor Suction Drum	97-A-858
LD115-P	LD115-U	F-0220 LD-1 High Pressure Separator	97-A-859
LD115A-P		F-0220 LD-1 High Pressure Separator – RV	
LD116-P	LD116-U	F-0703A LD-2A High Pressure Separator	N/A
LD116A-P		F-0703A LD-2A High Pressure Separator – RV	N/A
LD117-P	LD117-U	F-0703B LD-2B High Pressure Separator	N/A
LD117A-P		F-0703B LD-2B High Pressure Separator – RV	N/A
LD118-P	LD118-U	F-0704A LD-2A Low Pressure Separator	N/A
LD118A-P		F-0704A LD-2A Low Pressure Separator – RV	N/A
LD119-P	LD119-U	F-0704B LD-2B Low Pressure Separator	N/A
LD119A-P		F-0704B LD-2B Low Pressure Separator – RV	N/A
LD120-P	LD120-U	F-0803 LD-3 High Pressure Separator	97-A-657
LD120A-P		F-0803 LD-3 High Pressure Separator – RV	
LD121-P	LD121-U	F-0804 LD-3 Low Pressure Separator	97-A-658
LD121A-P		F-0804 LD-3 Low Pressure Separator - RV	
LD122-P	LD122-U	E-0701 VA Recovery Tower	N/A
LD123-P	LD123A-U	J-0720A1 LD-2 Modifier Injection Pump	N/A
	LD123B-U	J-0720A2 LD-2 Modifier Injection Pump	
	LD123C-U	J-0720B1 LD-2 Modifier Injection Pump	
	LD123D-U	J-0720B2 LD-2 Modifier Injection Pump	
	LD123E-U	J-0720C LD-2 Spare Modifier Injection Pump	
	LD123F-U	J-0728A LD-2 VA Modifier Injection Pump	
	LD123G-U	J-0728B LD-2 VA Modifier Injection Pump	
LD124-P	LD124-U	F-0231A LD-1 Low Pressure Separator	N/A
LD124A-P			N/A
LD125-P	LD125-U	F-0231B LD-1 Low Pressure Separator	N/A
LD125A-P			N/A
LD126-P	LD126-U	F-0232 LD-1 Low Pressure Separator	N/A
LD126A-P			N/A

Equipment List ^(*)
(continued)

Emission Point Number	Associated Emission Unit(s) Number (s)	Associated Emission Unit Description	IDNR Construction Permit Number
LD127-P	LD127-U	H207 Analyzer House, Analyzer 1	03-A-405
			03-A-406
		H207 Analyzer House, Analyzer 2	03-A-407
		H207 Analyzer House, Analyzer 3	03-A-408
LD128-P	LD128-U	H706 Analyzer House, Analyzer 1	03-A-409
		H706 Analyzer House, Analyzer 2	03-A-410
		H706 Analyzer House, Analyzer 3	03-A-411
Product Packing and Shipping			
PP001-P	PP001-U	L-0520 HDPE Cartoning Elutriator	N/A
PP002-P	PP002-U	L-0570 LDPE Cartoning Elutriator	N/A
PP003-P	PP003-U	L-0522 HDPE Cartoning Scalperator	N/A
PP004-P	PP004-U	L-0572 LDPE Cartoning Scalperator	N/A
PP005-P	PP005-U	L-0501 HDPE Old Hopper Car Elutriator	N/A
PP006-P	PP006-U	L-0551 LDPE Old Hopper Car Elutriator	N/A
PP007-P	PP007-U	L-0597 LDPE Old Hopper Car Scalperator	N/A
PP008-P	PP008-U	L-0503 HDPE Old Hopper Car Scalperator	N/A
PP009-P	PP009-U	L-0593 LDPE Hopper Truck Elutriator	N/A
PP010-P	PP010-U	L-0568 HDPE Hopper Truck Elutriator	N/A
PP011-P	PP011-U	L-0502 HDPE New Hopper Car Elutriator	79-A-102
PP012-P	PP012-U	L-0509 HDPE New Hopper Car Scalperator	
PP013-P	PP013-U	L-0557 LDPE New Hopper Car Scalperator	
PP014-P	PP014-U	L-0559 LDPE New Hopper Car Elutriator	
PP015-P	PP015-U	L-0594 LDPE Hopper Truck Scalperator	N/A
PP016-P	PP016-U	L-0569 HDPE Hopper Truck Scalperator	N/A
PP017-P	PP017-U	L-0589A LDPE New Hopper Car Deduster through L-0589B Baghouse	98-A-599
PP018-P	PP018-U	L-0528 HDPE North Powder Loading Dust Collector	N/A
PP019-P	PP019-U	L-0529 HDPE South Powder Loading Dust Collector	N/A

^(*) Equipment enclosed in double borders is grouped in a table in the Emission Point-Specific Conditions section of the permit.

Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EP026-U	F-2139 Wash Oil Tank (150,000 gal)
EP027-U	F-2407 Equalization & Neutralization Tank
EP028-U	F-2413 Rapid Mix Tank
EP029-U	F-2408 Flocculation Tank
EP034-U	J-2204D Fire Water Pump Diesel Engine (370 hp)
EP035-U	J-2204E Fire Water Pump Diesel Engine (370 hp)
EP036-U	J-2204F Fire Water Pump Diesel Engine (370 hp)
EP046-U	F-0144 Wash Oil Tank (15,000 gal) – Vent
HD144-U	HDPE: Conveying - Purge Conveyor
HD145-U	HDPE: Conveying - Purge Conveyor
HD146-U	HDPE: Conveying - Purge Conveyor
HD147-U	Fugitive Emission: Pump Seal
HD148-U	Fugitive Emission: Pump Seal
WH001-U	Welding Hood
WH002-U	Welding Hood
WH003-U	Welding Hood
PC001-U	Parts Cleaner
PC002-U	Parts Cleaner
PB001-U	Poly Burning
BH001-U	Building Heater - ENG/QC (1.5 MMBtu/hr)
BH002-U	Building Heater - ENG (0.51 MMBtu/hr)
BH003-U	Building Heater - E&I (0.13 MMBtu/hr)
BH004-U	Building Heater - E&I (0.13 MMBtu/hr)
BH005-U	Building Heater - E&I (0.56 MMBtu/hr)
BH006-U	Building Heater - Admin (1.05 MMBtu/hr)
BH007-U	Building Heater - Warehouse (0.125MMBtu/hr)
BH008-U	Building Heater - Warehouse (0.13 MMBtu/hr)
BH009-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH0010-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH0011-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH0012-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH0013-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH0014-U	Building Heater - Warehouse (0.125 MMBtu/hr)
BH0017-U	Building Heater - Safety (0.56 MMBtu/hr)
BH0018-U	Building Heater - Safety WH (0.075MMBtu/hr)
BH0019-U	Building Heater - Safety WH (0.075 MMBtu/hr)
BH0020-U	Building Heater - Safety WH (0.075 MMBtu/hr)

**Insignificant Activities Equipment List
(continued)**

Insignificant Emission Unit Number	Insignificant Emission Unit Description
BH0021-U	Building Heater - Main Gate (0.563 MMBtu/hr)
BH0022-U	Building Heater - Ambulance Garage (0.15 MMBtu/hr)
BH0023-U	Building Heater - Ambulance Garage (0.15 MMBtu/hr)
FT001-U	Fire Training Grounds
SF001-U	SB-153 Solvent Flushing
VB001-U	J-503 K-tron Purge Vacuum Blower
VB002-U	J-510 HD Reclaim Vacuum Blower
VB003-U	J-513 Car-washing Reclaim Vacuum Blower
AH001-U	H-110 Analyzer House

II. Plant-Wide Conditions

Facility Name: Equistar Chemicals, LP
Permit Number: 04-TV-008-M001

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108.

Permit Duration

The term of this permit is: Five (5) years.
Commencing on: June 15, 2004
Ending on: June 14, 2009

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

Emission Limit for LD-3 Line

Pollutant: VOC
Emission Limit: Combined VOC emissions from all the emission units listed in Table LD-3 shall not exceed 2 lb per ton of product.
Authority for Requirement: EPA PSD Permit dated May 4, 1979

Table LD-3: LD-3 Line Units Subject to VOC limit of EPA PSD Permit.

EP	EU	EU Description
LD008E-P	LD008-U	D-0801 LD-3 Reactor (East Rupture Disc Emissions)
LD008S-P		D-0801 LD-3 Reactor (Depressure Emissions)
LD008W-P		D-0801 LD-3 Reactor (West Rupture Disc Emissions)
LD019-P	LD019-U	L-0838 LD-3 Dewatering Bin & Spin Dryer
LD041-P	LD041-U	F-0459A LD-2/3 Rundown Storage Bin
LD042-P	LD042-U	F-0459B LD-2/3 Rundown Storage Bin
LD043-P	LD043-U	F-0459C LD-2/3 Rundown Storage Bin
LD044-P	LD044-U	F-0459D LD-2/3 Rundown Storage Bin
LD045-P	LD045-U	F-0459E LD-3 Rundown Blender
LD046-P	LD046-U	F-0459F LD-3 Rundown Blender
LD047-P	LD047-U	F-0459G LD-3 Rundown Blender
LD048-P	LD048-U	F-0459H LD-3 Rundown Blender
LD049-P	LD049-U	F-0459J LD-3 Rundown Blender
LD050-P	LD050-U	F-0459K LD-3 Rundown Blender
LD051-P	LD051-U	F-0459L LD-2/3 Rundown Storage Bin
LD052-P	LD052-U	F-0459M LD-2/3 Rundown Storage Bin

Table LD-3: LD-3 Line Units Subject to VOC limit of EPA PSD Permit. (Continued)

EP	EU	EU Description
LD053-P	LD053-U	F-0459N LD-2/3 Rundown Storage Bin
LD054-P	LD054-U	F-0459P LD-2/3 Rundown Storage Bin
LD055-P	LD055-U	F-0459Q LD-2/3 Rundown Storage Bin
LD056-P	LD056-U	F-0459R LD-2/3 Rundown Storage Bin
LD057-P	LD057-U	F-0459S LD-2/3 Rundown Storage Bin
LD058-P	LD058-U	F-0459T LD-2/3 Rundown Storage Bin
LD059-P	LD059-U	F-0459U LD-2/3 Rundown Storage Bin
LD092-P	LD092-U	F-0452J LD-2/3 Quad Storage Bin
LD093-P	LD093-U	F-0452K LD-2/3 Quad Storage Bin
LD094-P	LD094-U	F-0452L LD-2/3 Quad Storage Bin
LD095-P	LD095-U	F-0452M LD-2/3 Quad Storage Bin
LD109-P	LD109A-U	J-0801 LD-3 Primary/Flash Gas Compressor
	LD109B-U	J-0802 LD-3 Secondary Compressor
LD113-P	LD113-U	LD 3 Wax Works
LD120-P	LD120-U	F-0803 LD-3 High Pressure Separator
LD120A-P		F-0803 LD-3 High Pressure Separator – RV
LD121-P	LD121-U	F-0804 LD-3 Low Pressure Separator
LD121A-P		F-0804 LD-3 Low Pressure Separator - RV

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits:

1. The maximum design capacity of the LD-3 production line is 20,600 pounds per hour and 150,000,000 pounds per year.

Authority for Requirement: Iowa DNR Construction Permits 97-A-647, 97-A-649 through 97-A-658, and 97-A-685 through 97-A-703.

The following operating limits are requested by the facility:

2. The maximum design capacity of the LD-1 production line is 38,400 pounds per hour and 300,000,000 pounds per year.
3. The maximum design capacity of the LD-2A production line is 9,000 pounds per hour and 75,000,000 pounds per year.
4. The maximum design capacity of the LD-2B production line is 9,000 pounds per hour and 75,000,000 pounds per year.

Authority for Requirement: 567 IAC 22.108(14)

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

1. Calculate and record on a monthly basis the combined VOC emissions from all the units listed in Table LD-3 to ensure that the limit of 2 lb VOC per ton of product will not be exceeded.
2. Record on an hourly basis the production output of LD-1, LD-2A, LD-2B, and LD-3 production lines.
3. Record on a monthly basis the production output of LD-1, LD-2A, LD-2B, and LD-3 production lines. Calculate and record 12-month totals (rolled monthly) of production output of LD-1, LD-2A, LD-2B, and LD-3 production lines.

Authority for Requirement: 567 IAC 22.108(4)

Emission Limits

Unless specified otherwise in the Source Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:

Opacity (visible emissions): 40% opacity

Authority for Requirement: 567 IAC 23.3(2)"d"

SO₂: 500 parts per million

Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter (state enforceable only)¹:

No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.

For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).

Authority for Requirement: 567 IAC 23.3(2)"a" (as revised 7/21/1999)

Particulate Matter²:

The emission of particulate matter from any process shall not exceed the amount determined from Table I, except as provided in 567 — 21.2(455B), 23.1(455B), 23.4(455B) and 567 — Chapter 24. If the director determines that a process complying with the emission rates specified

¹ Pending approval into Iowa's State Implementation Plan (SIP), paragraph 567 IAC 23.3(2)"a" (as revised 7/21/1999) is considered *state enforceable only*.

² Paragraph 567 IAC 23.3(2)"a" (prior to 7/21/1999) is the general particulate matter emission standard currently in the Iowa SIP.

in Table I is causing or will cause air pollution in a specific area of the state, an emission standard of 0.1 grain per standard cubic foot of exhaust gas may be imposed.

Authority for Requirement: 567 IAC 23.3(2)"a" (prior to 7/21/1999)

Fugitive Dust: Attainment and Unclassified Areas - No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizers or limestone.
4. Covering at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan

The owner/operator shall comply with the applicable requirements listed below. The compliance status is based on information provided by the applicant.

Unless otherwise noted in Section III of this permit, Equistar Chemicals, LP is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which become effective during the permit term Equistar Chemicals, LP shall comply with such requirements in a timely manner.

Authority for Requirement: 567 IAC 22.108(15)

Section 112(j) of the Clean Air Act (MACT Hammer)

On 5/17/2002, Equistar Chemicals, LP submitted a Part 1 MACT application to IDNR indicating that the facility may be subject to the MACT standards Organic Liquids Distribution (non-gasoline), 40 CFR 63 Subpart EEEE, and the MACT standard for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63 Subpart DDDDD when they are promulgated.

The final rule for 40 CFR 63 Subpart DDDDD was signed on February 26, 2004. Therefore, a Part 2 MACT application for 40 CFR 63 Subpart DDDDD to DNR is not required. Equistar Chemicals, LP is subject to subpart DDDDD, and the requirements of subpart DDDDD are described below.

The final rule for 40 CFR 63 Subpart EEEE was signed on August 25, 2003. Therefore, a Part 2 MACT application for 40 CFR 63 Subpart EEEE to DNR is not required. Equistar Chemicals, LP is not subject to subpart EEEE because it is subject to subparts YY and FFFF. The requirements of subparts YY and FFFF are described below.

Authority for Requirement: 40 CFR 63.52; 567 IAC 23.1(4)"b"(2)

General Provisions of 40 CFR 60, 61, and 63

This facility is subject to the requirements in subpart A – General Provisions of 40 CFR 60, 61, and 63, except those exempted by 40 CFR 60 subpart DDD, 40 CFR 61 subparts J, V, BB, and FF, and 40 CFR 63 subparts XX, YY, FFFF, and DDDDD.

Authority for Requirement: 567 IAC 23.1(2)"mmm", (3)"f", "g", "m", "n", and (4)"ay"
40 CFR 60 Subpart DDD,
40 CFR 61 subparts J, V, BB, and FF, and
40 CFR 63 subparts XX, YY, FFFF, and DDDDD

40 CFR 60 Subpart DDD Requirements

This facility is subject to Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry. The effected units are HD009A-U through HD009H-U, HD018-U, HD019-U, HD050C-U, HD077-U through HD080-U, HD084-U through HD091-U, and HD121-U. The requirements of subpart DDD are incorporated into the Emission Point-Specific Conditions section.

Authority for Requirement: 567 IAC 23.1(2)"mmm"
40 CFR 60 Subpart DDD

40 CFR 61 Subparts J and V Requirements

This facility is subject to subpart J National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene and subpart V National Emission Standard for Equipment Leaks (Fugitive Emission Sources). The effected units are some of the fugitive emission sources reported under EP021-P (EP021-U: Ethylene Unit Fugitive). The requirements of subparts J and V are incorporated into the Emission Point-Specific Conditions section.

Authority for Requirement: 567 IAC 23.1(3)"f", "g"
40 CFR 61 Subparts J, V

Per 40 CFR 63.1100(g)(4), affected units that are subject to part 61 subparts J, V and part 63 subpart YY are required only to comply with the equipment leak requirements of part 63 subpart YY.

Authority for Requirement: 567 IAC 23.1(4)"ay",
40 CFR 63 Subpart YY

40 CFR 61 Subpart BB Requirements

This facility is subject to subpart BB National Emission Standard for Benzene Transfer Operations. The effected units are emission units EP022A-U (DAC Barge), EP022B-U (DAC Truck), EP022C-U (Residual Oil Truck), and EP022D-U (DAC Rail Car). The requirements of subpart BB are incorporated into the Emission Point-Specific Conditions section.

Authority for Requirement: 567 IAC 23.1(3)"m"
40 CFR 61 Subpart BB

40 CFR 61 Subpart FF Requirements

This facility is subject to National Emission Standard for Benzene Waste Operations. The affected units are EP051-U (E-118 Quench Water Stripper Blowdown), EP052-U (E-129 Caustic Stripper Blowdown), and some of the fugitive emission sources reported under EP021-P (EP021-U: Ethylene Unit Fugitive). The requirements of subpart FF are incorporated into the Emission Point-Specific Conditions section.

Authority for Requirement: 567 IAC 23.1(3)"n"
40 CFR 61 Subpart FF

Per 40 CFR 63.1100(g)(6)(ii), compliance with 40 CFR 63.1103(e) of part 63 subpart YY shall constitute compliance with the Benzene Waste Operations NESHAP (subpart FF of 40 CFR part 61) for waste streams that are subject to both the control requirements of §63.1103(e)(3) for ethylene production sources and the control requirements of 40 CFR part 61, subpart FF.

Authority for Requirement: 567 IAC 23.1(4)"ay"
40 CFR 63 Subpart YY

40 CFR 63 Subpart YY Requirements

The facility is subject to subpart YY, NESHAP for Source Categories: Generic Maximum Achievable Control Technology Standards, because it fits the applicability requirements of 40 CFR 63.1100(a) and 1103(e) for an ethylene production source category. Affected sources include storage vessels, process vents, transfer racks, equipment leaks, wastewater streams, heat exchange systems (including cooling towers), and all ethylene cracking furnaces and associated decoking operations.

Compliance Date 40 CFR 63.1102

- The ethylene production part of MACT was promulgated on July 12, 2002.
- All existing affected sources must demonstrate compliance with all applicable requirements no later than July 12, 2005.
- Any new affected source that has an initial startup after July 12, 2002 must be able to demonstrate compliance with all applicable requirements upon startup of the source.
- 40 CFR 63.1102 also specifies the compliance schedule for other types of affected sources.

Initial Notifications 40 CFR 63.1110(c):

- An initial notification must be submitted and postmarked within 1 year after July 12, 2002.
- The initial notification shall include the information specified in 40 CFR 63.1110(c)(2) through (7).

Startup, shutdown, and malfunction 40 CFR 63.1111:

- A Startup, Shutdown, and Malfunction (SSM) plan must be developed in compliance with 40 CFR 63.1111(a) by the compliance date.

Notification of Compliance Status 40 CFR 63.1110(d):

- A Notification of Compliance Status including information specified in 40 CFR 63.1110(d)(1) shall be submitted 240 days after the compliance date for existing sources.

Authority for Requirement: 567 IAC 23.1(4)"ay"
40 CFR 63 Subpart YY

40 CFR 63 Subpart XX Requirements

Per 40 CFR 63.1083, the heat exchange systems in this facility is subject to subpart XX because subpart XX is referenced from subpart YY of part 63.

The permittee must comply with the heat exchange system monitoring, leak detection and repair, record keeping and reporting requirements in 40 CFR 63.1085.

The permittee must comply with the requirements for continuous butadiene waste streams in 40 CFR 63.1095(a), and the requirements for benzene waste streams in 40 CFR 63.1095(b).

Compliance date, initial notification, SSM plan, and notification of compliance status are the same as those for subpart YY.

Authority for Requirement: 567 IAC 23.1(4)"ay"
40 CFR 63 Subparts XX and YY

40 CFR 63 Subpart FFFF Requirements

Parts of this facility will be subject to the Miscellaneous Organic Chemical Manufacturing and Miscellaneous Coating Manufacturing (MON) MACT. This MACT was published in the Federal Register on November 10, 2003. All existing emission units subject to this MACT must demonstrate compliance with all applicable requirements no later than May 10, 2008. Any new affected sources constructed after November 10, 2003 must be able to demonstrate compliance with all applicable requirements upon startup of that equipment.

Initial Notifications 40 CFR 63.2515:

- If an affected source is started up before November 10, 2003, an initial notification must be submitted within 120 calendar days after November 10, 2003.
- If an affected source is started up after November 10, 2003, an initial notification must be submitted within 120 calendar days after the source becomes subject to this subpart.

Precompliance Report 40 CFR 63.2520(c):

- A Precompliance Report may be required to request approval for items 63.2520(c)(1) – (7). If a Precompliance Report is required, it must be submitted six (6) months prior to the compliance date for existing affected sources, November 10, 2007, or for new sources, upon application for approval of construction or reconstruction.

Authority for Requirement: 40 CFR 63 Subpart FFFF

40 CFR 63 Subpart DDDDD Requirements

This facility is subject to National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters – 40 CFR 63 Subpart DDDDD. The subpart was signed on February 26, 2004, and the effective date is [60 days after publication date in the Federal Register]. The affected units are the gas drier (EP014-U), and the five boilers – A-boiler through E-boiler (EP015D-U through EP019F-U). The requirements of subpart DDDDD are incorporated into the Emission Point-Specific Conditions section.

Authority for Requirement: 40 CFR 63 Subpart DDDDD

III. Emission Point-Specific Conditions

Facility Name: Equistar Chemicals, LP

Permit Number: 04-TV-008-M001

III. A. Ethylene Plant

Emission Point ID Numbers: EP001-P through EP013-P

Associated Equipment

Table Furnace-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (MMBtu/hr)
EP001-P	EP001-U	LB-0101A A-Furnace	Non-sulfured Fuel Gas	82
EP002-P	EP002-U	LB-0101B B-Furnace	Non-sulfured Fuel Gas	82
EP003-P	EP003-U	LB-0101C C-Furnace	Non-sulfured Fuel Gas	82
EP004-P	EP004-U	LB-0101D D-Furnace	Non-sulfured Fuel Gas	82
EP005-P	EP005-U	LB-0101E E-Furnace	Non-sulfured Fuel Gas	82
EP006-P	EP006-U	LB-0101F F-Furnace	Non-sulfured Fuel Gas	82
EP007-P	EP007-U	LB-0101G G-Furnace	Non-sulfured Fuel Gas	82
EP008-P	EP008-U	LB-0101H H-Furnace	Non-sulfured Fuel Gas	82
EP009-P	EP009-U	LB-0101I I-Furnace	Non-sulfured Fuel Gas	82
EP010-P	EP010-U	LB-0101J J-Furnace	Non-sulfured Fuel Gas	82
EP011-P	EP011-U	LB-0107A K-Furnace	Non-sulfured Fuel Gas	169
EP012-P	EP012-U	LB-0107B L-Furnace	Non-sulfured Fuel Gas	169
EP013-P	EP013-U	LB-0120 M-Furnace	Non-sulfured Fuel Gas	137

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Furnace-2

EP	EU	Opacity	PM (lb/MMBtu)	SO ₂ (ppmv)	NO _x	Iowa DNR Construction Permit #
EP001-P	EP001-U	40%	0.8	500	N/A	N/A
EP002-P	EP002-U	40%	0.8	500	N/A	N/A
EP003-P	EP003-U	40%	0.8	500	N/A	N/A
EP004-P	EP004-U	40%	0.8	500	N/A	N/A
EP005-P	EP005-U	40%	0.8	500	N/A	N/A
EP006-P	EP006-U	40%	0.8	500	N/A	N/A
EP007-P	EP007-U	40%	0.8	500	N/A	N/A
EP008-P	EP008-U	40%	0.8	500	N/A	N/A
EP009-P	EP009-U	40%	0.8	500	N/A	N/A
EP010-P	EP010-U	40%	0.8	500	N/A	N/A
EP011-P	EP011-U	40%	0.6	500	N/A	N/A
EP012-P	EP012-U	40%	0.6	500	N/A	N/A
EP013-P	EP013-U	40%	0.6	500	38.3 lb/hr 167 tpy	89-A-030

Table Furnace-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	0.8 lb/MMBtu	567 IAC 23.3(2)"b"(1)
PM	0.6 lb/MMBtu	567 IAC 23.3(2)"b"(3)
SO ₂	500 ppmv	567 IAC 23.3(3)"e"
NO _x	38.3 lb/hr 167 tpy	Iowa DNR Construction Permit Referenced in Table Furnace-2.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Numbers: EP014-P, EP015E-P, EP015W-P, EP016E-P,
EP016W-P, EP017-P, EP018-P, EP018-P,
EP019-P**

Associated Equipment

Table Boiler-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (MMBtu/hr)
EP014-P	EP014-U	B-0103 Gas Drier	Non-sulfured Fuel Gas	16
EP015E-P	EP015D-U	LB-0102A A-Boiler (Distillate Oil Fired)	Distillate Oil	794
EP015W-P	EP015F-U	LB-0102A A-Boiler (Fuel Gas Fired)	Non-sulfured Fuel Gas	257
EP016E-P	EP016D-U	LB-0102B B-Boiler (Distillate Oil Fired)	Distillate Oil	794
EP016W-P	EP016F-U	LB-0102B B-Boiler (Fuel Gas Fired)	Non-sulfured Fuel Gas	257
EP017-P	EP017-U	LB-0105 C-Boiler (Natural Gas Fired)	Non-sulfured Natural Gas	178
EP018-P	EP018D-U	LB-0106A D-Boiler (Distillate Oil Fired)	Distillate Oil	24
	EP018F-U	LB-0106A D-Boiler (Natural Gas Fired)	Non-sulfured Natural Gas	24
EP019-P	EP019D-U	LB-0106B E-Boiler (Distillate Oil Fired)	Distillate Oil	24
	EP019F-U	LB-0106B E-Boiler (Natural Gas Fired)	Non-sulfured Natural Gas	24

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Boiler-2

EP	EU	Opacity	PM (lb/MMBtu)	SO ₂	NO _x (lb/hr)	Iowa DNR Construction Permit #
EP014-P	EP014-U	40%	0.8	500 ppmv	N/A	N/A
EP015E-P	EP015D-U	40%	0.8 ⁽¹⁾	2.5 lb/MMBtu ⁽³⁾	176.7 lb/hr ⁽⁷⁾	89-A-028
EP015W-P	EP015F-U	40%		500 ppmv ⁽⁴⁾	774 tpy ⁽⁷⁾	
EP016E-P	EP016D-U	40%	0.8 ⁽²⁾	2.5 lb/MMBtu ⁽⁵⁾	176.7 lb/hr ⁽⁸⁾	89-A-029
EP016W-P	EP016F-U	40%		500 ppmv ⁽⁴⁾	774 tpy ⁽⁸⁾	
EP017-P	EP017-U	40%	0.8	500 ppmv	N/A	N/A
EP018-P	EP018D-U EP018F-U	40%	0.6	2.5 lb/MMBtu ⁽⁶⁾ 500 ppmv ⁽⁴⁾	N/A	N/A
EP019-P	EP019D-U EP019F-U	40%	0.6	2.5 lb/MMBtu ⁽⁶⁾ 500 ppmv ⁽⁴⁾	N/A	N/A

⁽¹⁾ Combined PM limit for stacks EP015E-P and EP015W-P.

⁽²⁾ Combined PM limit for stacks EP016E-P and EP016W-P.

⁽³⁾ Combined SO₂ limit for stacks EP015E-P and EP015W-P while firing fuel oil.

⁽⁴⁾ SO₂ limit while firing natural gas.

⁽⁵⁾ Combined SO₂ limit for stacks EP016E-P and EP016W-P while firing fuel oil.

⁽⁶⁾ SO₂ limit while firing fuel oil.

⁽⁷⁾ Combined NO_x limits for stacks EP015E-P and EP015W-P.

⁽⁸⁾ Combined NO_x limits for stacks EP016E-P and EP016W-P.

Table Boiler-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	0.8 lb/MMBtu	567 IAC 23.3(2)"b"(1)
PM	0.6 lb/MMBtu	567 IAC 23.3(2)"b"(3)
SO ₂	500 ppmv	567 IAC 23.3(3)"e"
SO ₂	2.5 lb/MMBtu	567 IAC 23.3(3)"b"(2)
NO _x	176.7 lb/hr 774 tpy	Iowa DNR Construction Permits Referenced in Table Boiler-2.

40 CFR Subpart DDDDD Requirements

Per 40 CFR 63.7506(b) and (b)(2), the affected gas drier (EP014-U), and the five boilers – A-boiler through E-boiler (EP015D-U through EP019F-U) are subject to only the initial notification requirements in 40 CFR 63.9(b) which shall be submitted not later than 120 calendar days after the effective date of subpart DDDDD. The effective date of the subpart DDDDD is [60 days after publication date in the Federal Register]. The information that must be included in the initial notification is specified in 40 CFR 63.7545(b).

Authority for Requirement: 40 CFR 63 Subpart DDDDD

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. No person shall allow, cause or permit the combustion of number 1 or number 2 fuel oil exceeding a sulfur content of 0.5 percent by weight.

Authority for Requirement: 567 IAC 23.3(3)"b"(1)

Reporting & Record keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources:

1. The facility shall monitor the percent of sulfur by weight in the fuel oil as delivered. The documentation may be vendor supplied or facility generated.

Authority for Requirement: 567 IAC 22.108(3)

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: EP020H-P through EP020V-P

Associated Equipment

Table Cooling Tower-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (MMgal/hr)
EP020H-P	EP020H-U	U-2202 Cooling Tower	Water	0.66
EP020I-P	EP020I-U	U-2202 Cooling Tower	Water	0.66
EP020J-P	EP020J-U	U-2202 Cooling Tower	Water	0.66
EP020K-P	EP020K-U	UJ-2210 Cooling Tower	Water	0.3852
EP020L-P	EP020L-U	UJ-2210 Cooling Tower	Water	0.3852
EP020M-P	EP020M-U	UJ-2210 Cooling Tower	Water	0.3852
EP020N-P	EP020N-U	UJ-2210 Cooling Tower	Water	0.3852
EP020O-P	EP020O-U	UJ-2210 Cooling Tower	Water	0.3852
EP020P-P	EP020P-U	UJ-2210 Cooling Tower	Water	0.3852
EP020Q-P	EP020Q-U	UJ-2210 Cooling Tower	Water	0.3852
EP020R-P	EP020R-U	UJ-2210 Cooling Tower	Water	0.3852
EP020S-P	EP020S-U	UJ-2210 Cooling Tower	Water	0.3852
EP020T-P	EP020T-U	UJ-2210 Cooling Tower	Water	0.3852
EP020U-P	EP020U-U	UJ-2210 Cooling Tower	Water	0.3852
EP020V-P	EP020V-U	UJ-2210 Cooling Tower	Water	0.3852

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40 %

Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2)"a"

40 CFR 63 Subpart XX Requirements

See plant wide-conditions section for requirements in 40 CFR 63 subpart XX. However, all the monitoring required by subpart XX will be conducted at the locations of heat exchangers.

Authority for Requirement: 40 CFR 63 Subparts XX

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP021-P (Fugitive)**Associated Equipment**

Associated Emission Unit ID Number: EP021-U

Emission Unit vented through this Emission Point: EP021-U

Emission Unit Description: Ethylene Unit Fugitive

Raw Material/Fuel: Process Gases

Rated Capacity: 8760 hr/yr

Applicable Requirements**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NESHAP Part 61 Subpart J Requirements:

Some of the fugitive emission sources reported under EP021-U are subject to 40 CFR 61 subpart J. The effected units include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems that either contain or contact a fluid (liquid or gas) that is at least 10 percent benzene by weight. Part 61 subpart J is listed in Appendix B.

Per 40 CFR 61.112(a), the units that are subject to subpart J shall comply with the requirements of part 61 subpart V.

Authority for Requirement: 567 IAC 23.1(3)"f"
40 CFR 61 Subpart J

The facility shall compile and maintain a list of equipment that are subject to subparts J and V. The list shall be maintained on-site and available for inspection upon request by representatives of the Department of Natural Resources.

Authority for Requirement: 567 IAC 22.108(4)

Per 40 CFR 63.1100(g)(4), affected units that are subject to part 61 subparts J, V and part 63 subpart YY are required only to comply with the equipment leak requirements of part 63 subpart YY.

Authority for Requirement: 567 IAC 23.1(4)"ay"
40 CFR 63 Subpart YY

NESHAP Part 61 Subpart V Requirements:

Some of the fugitive emission sources reported under EP021-U are subject to part 61 subpart V due to the reference by subpart J. The effected units include pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems that either contain or contact a fluid (liquid or gas) that is at least 10 percent benzene by weight. Part 61 subpart V is listed in Appendix C.

Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment as required by 40 CFR 61.242-1(d).

Pumps shall be monitored to detect leaks and repaired if leaks are detected in compliance with 40 CFR 61.242-2.

Compressors shall be equipped with a seal system, monitored to detect leaks and repaired if leaks are detected in compliance with 40 CFR 61.242-3.

Pressure relief devices in gas/vapor service shall be operated and maintained in compliance with 40 CFR 61.242-4.

Sampling connecting systems shall be equipped with a vent system, operated and maintained in compliance with 40 CFR 61.242-5.

Open-ended valves or lines shall be operated in compliance with 40 CFR 61.242-6.

Valves shall be monitored to detect leaks and repaired if leaks are detected in compliance with 40 CFR 61.242-7.

Pressure relief devices in liquid service and connectors shall be monitored to detect leaks and repaired if leaks are detected in compliance with 40 CFR 61.242-8.

Surge control vessels and bottoms receivers, if applicable, shall be equipped with a capturing system in compliance with 40 CFR 61.242-9.

Closed-vent systems and control devices shall be designed, operated and maintained in compliance with 40 CFR 61.242-11.

The facility shall comply with the monitoring and testing procedures in 40 CFR 61.245.

The facility shall comply with the record keeping requirements in 40 CFR 61.246.

The facility shall comply with the reporting requirements, including the semiannual reports, in 40 CFR 61.247.

Authority for Requirement: 567 IAC 23.1(3)"g"
40 CFR 61 Subpart V

The facility shall compile and maintain a list of equipment that are subject to subparts J and V. The list shall be maintained on-site and available for inspection upon request by representatives of the Department of Natural Resources.

All records as required by 40 CFR 61.246 shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

Authority for Requirement: 567 IAC 22.108(4)

Per 40 CFR 63.1100(g)(4), affected units that are subject to part 61 subparts J, V and part 63 subpart YY are required only to comply with the equipment leak requirements of part 63 subpart YY.

Authority for Requirement: 567 IAC 23.1(4)"ay"
40 CFR 63 Subpart YY

NESHAP Part 61 Subpart FF Requirements:

Some of the fugitive emission sources reported under EP021-U are subject to part 61 subpart FF. Part 61 subpart FF is listed in Appendix E.

The facility shall determine the total annual benzene quantity from facility waste in compliance with 40 CFR 61.355(a)(1), (a)(2), (a)(6), (b), and (c).

Because the total annual benzene quantity from facility waste is equal to or greater than 11 tpy, the facility should comply with 40 CFR 61.355(a)(3) by complying with the control requirements of 40 CFR 61.342(c), (d), or (e), 346, 348 and record keeping and requirements of 40 CFR 61.356 and 357. However, per 40 CFR 342(c)(2), a waste stream is exempt from the control requirements provided that the facility demonstrates initially and, thereafter, at least once per year that the flow-weighted annual average benzene concentration for the waste stream is less than 10 ppmw as determined by the procedures specified in §61.355(c)(2) or §61.355(c)(3).

Authority for Requirement: 567 IAC 23.1(3)"n"
40 CFR 61 Subpart FF

Per 40 CFR 63.1100(g)(6)(ii), compliance with 40 CFR 63.1103(e) of part 63 subpart YY shall constitute compliance with the Benzene Waste Operations NESHAP (subpart FF of 40 CFR part 61) for waste streams that are subject to both the control requirements of §63.1103(e)(3) for ethylene production sources and the control requirements of 40 CFR part 61, subpart FF.

Authority for Requirement: 567 IAC 23.1(4)"ay"
40 CFR 63 Subpart YY

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP022-P (Fugitive)

Associated Equipment

Associated Emission Unit ID Numbers: EP022A-U, EP022B-U, EP022C-U and EP022D-U

Emission Unit vented through this Emission Point: EP022A-U

Emission Unit Description: DAC Barge

Raw Material/Fuel: De-Butanized Aromatic Concentrate (DAC)

Rated Capacity: 36,360 gal/hr

Note: The non-fugitive emissions from DAC barge loading are directed to the B-2201 DAC Flare (EP032-P) permitted by Iowa DNR Construction Permit 90-A-065-S2. The fugitive emissions from DAC barge loading are accounted for by this emission unit (EP022A-U) and are subject to the same operating and monitoring requirements (e.g., equipment leak detection and repair) described in Iowa DNR Construction Permit 90-A-065-S2.

Emission Unit vented through this Emission Point: EP022B-U

Emission Unit Description: DAC Truck

Raw Material/Fuel: De-Butanized Aromatic Concentrate (DAC)

Rated Capacity: 36,360 gal/hr

Emission Unit vented through this Emission Point: EP022C-U

Emission Unit Description: Residual Oil Truck

Raw Material/Fuel: Residual Oil

Rated Capacity: 23.7 ton/hr

Emission Unit vented through this Emission Point: EP022D-U

Emission Unit Description: DAC Rail Car

Raw Material/Fuel: De-Butanized Aromatic Concentrate (DAC)

Rated Capacity: 36,360 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NESHAP Part 61 Subpart BB Requirements:

Emission units EP022A-U, EP022B-U, EP022C-U, and EP022D-U are subject to part 61 subpart BB. The facility is exempted from the requirements of this subpart except the recordkeeping and reporting requirements in §61.305(i) because the facility loads only liquid containing less than 70 weight-percent benzene. Part 61 subpart BB is listed in Appendix D.

The facility shall comply with the recordkeeping and reporting requirements in 40 CFR 61.305(i).

Authority for Requirement: 567 IAC 23.1(3)"m"
40 CFR 61 Subpart BB

All records as required by 40 CFR 61.305(i) shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

Authority for Requirement: 567 IAC 22.108(4)

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: EP023-P through EP025-P

Associated Equipment

Table Tank-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (gallons)
EP023-P	EP023-U	F-2105 DAC Tank	Aromatic Compounds	756,000
EP024-P	EP024-U	F-2132 DAC Tank	Aromatic Compounds	567,000
EP025-P	EP025-U	F-2147 DAC Tank	Aromatic Compounds	2,811,057

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Control Equipment:

Installation of an internal floating roof in EP025-U (F-2147 DAC Tank).

Authority of Requirement: EPA PSD Permit dated May 4, 1979

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP030-P

Associated Equipment

Associated Emission Unit ID Number: EP030-U

Emission Unit vented through this Emission Point: EP030-U
Emission Unit Description: A-2408A & B Primary Clarifiers
Raw Material/Fuel: Wastewater
Rated Capacity: 90,000 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP031-P

Associated Equipment

Associated Emission Unit ID Number: EP031-U

Emission Unit vented through this Emission Point: EP031-U

Emission Unit Description: Cold Vent Header

Raw Material/Fuel: Emergency Vent Gases

Average Release Potential: 234 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP032-P

Associated Equipment

Associated Emission Unit ID Numbers: EP032A-U and EP032B-U

Emissions Control Equipment ID Number: EP032CE1

Emissions Control Equipment Description: Flare Tip

Note: This emission point is permitted by Iowa DNR Construction Permit 90-A-065-S2

Emission Unit vented through this Emission Point: EP032A-U

Emission Unit Description: B-2201 DAC Flare Tip (Burner)

Raw Material/Fuel: Pipeline Natural Gas

Rated Capacity: 21 scf/hr

Emission Unit vented through this Emission Point: EP032B-U

Emission Unit Description: B-2201 DAC Flare (DAC Vapors)

Raw Material/Fuel: DAC Vapor

Rated Capacity: 6.46 gal/hr (vapor generated from 36,360 gal/hr DAC shipped)

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit: 40%

Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (PM)

Emission Limit: 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: SO₂

Emission Limit: 500 ppmv

Authority for Requirement: 567 IAC 23.3(3)"e"

Pollutant: Volatile Organic Compounds (VOC)

Emission Limit: 1.5 lb/hr, 0.187 tons per 12-month rolling total

Authority for Requirement: Iowa DNR Construction Permit 90-A-065-S2

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NESHAP:

- A. This emissions unit is subject to 40 CFR Part 61, Subpart BB, National Emission Standard for Benzene Emissions from Benzene Transfer Operations. In accordance with § 61.300 (b), this facility is exempt from the requirements of the subpart provided it loads only liquid which contains less than 70 percent benzene by weight. The facility is subject to the recordkeeping and reporting requirements of § 61.305(i).
- B. This emissions unit is subject to 40 CFR Part 61, Subpart J, National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene.
- C. This emissions unit is subject to the 40 CFR Part 61, Subpart V, National Emission Standard for Equipment Leaks (Fugitive Emission Sources). This standard applies to the following equipment associated with the barge loading that is in VHAP service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, flanges and other connectors, product accumulator vessels, and control devices or systems required by the subpart.
- D. This emissions unit is subject to 40 CFR Part 63, Subpart YY, National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards. In accordance with §63.1102, the compliance date for affected sources at an ethylene production facility is July 12, 2005. In accordance with Table 7 to §63.1103(e) (Requirements for an ethylene production facility), equipment (as defined in §63.1101) that contains or contacts ≥ 5 weight-percent organic HAP is subject to the requirements of 40 CFR Part 63, Subpart UU, National Emission Standards for Equipment Leaks – Control Level 2 Standards.
- E. This emissions unit is not subject to a New Source Performance Standard at this time.

Authority for Requirement: Iowa DNR Construction Permit 90-A-065-S2
40 CFR 61 Subparts BB, J, V,
40 CFR 63 Subparts YY, UU
567 IAC 23.1(3)"m", "f", "g"
567 IAC 23.2(4)"ay", "au"

Operating Limits:

- A. This emissions unit shall operate a maximum of 250 hours in any rolling 12-month period.
- B. The flare shall be in operation any time the barge loading equipment is in operation.
- C. The permittee shall comply with all applicable requirements of §61.242-1 to 61.242-11 except as provided in §61.243 and §61.244.

Authority for Requirement: Iowa DNR Construction Permit 90-A-065-S2

Operating Condition Monitoring:

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner.

- A. The permittee shall keep the following monthly records:
 - i. the number of hours the barge loading equipment operated; and
 - ii. the rolling, 12-month total of the number of hours the barge loading equipment operated.
- B. In accordance with §61.305(i), the permittee shall maintain the following records:
 - i. The affected facility's name and address;
 - ii. The weight percent of the benzene loaded;
 - iii. The type of vessel loaded (i.e. tank truck, railcar, or marine vessel); and
 - iv. The annual amount of benzene loaded into each type of vessel.
- C. The permittee shall comply with all applicable recordkeeping requirements from §61.246.
- D. The permittee shall comply with all applicable reporting requirements from §61.247.
- E. The permittee shall comply with all applicable recordkeeping and reporting requirements from 40 CFR Part 63, Subpart YY, specifically §63.1109 and §63.1100.

Authority for Requirement: Iowa DNR Construction Permit 90-A-065-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 50

Stack Opening, (inches, dia.): 60

Exhaust Flow Rate (scfm): 772

Exhaust Temperature (°F): 1600

Discharge Style: Vertical, unobstructed

Authority for Requirement: Iowa DNR Construction Permit 90-A-065-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP033-P**Associated Equipment****Table Flare**

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity	CE ID & Description
EP033-P	EP033A-U	B-2401 Ethylene Flare Tip (Burner)	Nonsulfured Natural Gas	350 scf/hr	EP033CE1 Flare Tip
	EP033B-U	B-2401 Ethylene Flare Exhaust (Vent Gases)	Emergency Vent Gases	4,600 MMBtu/hr	
	EP033C-U	Diglycolamine (DGA) Unit, Custom-Built	Diglycolamine (DGA)	45 gal/min	
	EP037-U	H-120 Ethylene Analyzer House	Ethylene Gases	920 lb/yr	
	EP047-U	H-107B Ethylene Analyzer House	Ethylene Gases	3,750 lb/yr	
	Not assigned	Isobutane Recovery System	Isobutane and Hexene	1100 lb/hr	

Applicable Requirements**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit: 40% ⁽¹⁾

⁽¹⁾ An exceedence of the indicator opacity of (20%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Authority for Requirement: 567 IAC 23.3(2)"d" (Iowa DNR Construction Permit 00-A-911-S2)

Pollutant: Particulate Matter (PM)

Emission Limit: 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2)"a" (Iowa DNR Construction Permit 00-A-911-S2)

Pollutant: SO₂

Emission Limit: 6.86 lb/hr ⁽²⁾

⁽²⁾ Contribution of DGA unit (EP033C-U) alone to the flare (EP033-P).

Authority for Requirement: Iowa DNR Construction Permit 00-A-911-S2

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

1. The feedstock treated by the DGA unit (EP033C-U) shall be tested for sulfur content.
2. The sulfur content of the feedstock for the DGA unit (EP033C-U) shall be tested a minimum of once a month.
3. The facility shall calculate on a monthly basis the amount of sulfur dioxide emitted from the DGA unit (EP033C-U). This calculation shall be based on the sulfur content of the incoming feedstock and the amount of feedstock used, and shall assume that all the sulfur from the DGA unit (EP033C-U) is converted to SO₂ at the flare.

Authority for Requirement: Iowa DNR Construction Permit 00-A-911-S2

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 199

Discharge Style: Vertical unobstructed

Stack Opening (inches, diameter): 42

Exhaust Temperature (°F): 1,580 °F

Exhaust Flowrate (scfm): 1,975

Authority for Requirement: Iowa DNR Construction Permit 00-A-911-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP037A-P (Fugitive)

Associated Equipment

Associated Emission Unit ID Number: EP037A-U

Emission Unit vented through this Emission Point: EP037A-U

Emission Unit Description: Plant Insignificant Activities

Raw Material/Fuel: Process Gases

Rated Capacity: 133,560 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: EP038-P and EP039-P

Associated Equipment

Table Decoke-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
EP038-P	EP038-U	F-0154 Furnace Decoke Pot	Coke, Air and Steam	25,090 lb/hr
EP039-P	EP039-U	F-0154A Furnace Decoke Pot	Coke, Air and Steam	25,090 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP040-P**Associated Equipment**

Associated Emission Unit ID Number: EP040-U

Emission Unit vented through this Emission Point: EP040-U
Emission Unit Description: B-0107 Regeneration Gas Heater
Raw Material/Fuel: Steam, Air and Natural Gas
Rated Capacity: 3.2 MMBtu/hr

Applicable Requirements**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit: 20% ⁽¹⁾

⁽¹⁾ If visible emissions are observed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard

Authority for Requirement: 567 IAC 23.3(2)"d" (Iowa DNR Construction Permit 97-A-804-S1)

Pollutant: Particulate Matter

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2)"a" (Iowa DNR Construction Permit 97-A-804-S1)

Pollutant: SO₂

Emission Limit(s): 2.5 lb/MMBtu

Authority for Requirement: 567 IAC 23.3(3)"b" (Iowa DNR Construction Permit 97-A-804-S1)

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operation Limit:

The fuel used is limited to pipeline quality natural gas.

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

The type of fuel used should be documented.

Authority for Requirement: Iowa DNR Construction Permit 97-A-804-S1

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (from the ground): 22 ft 7 in.

Discharge Style: N/A

Stack Opening (Diameter, inches): 10 in.

Exhaust Temperature (°F): 1250°F

Exhaust Flowrate (acfm): 1500 acfm

Authority for Requirement: Iowa DNR Construction Permit 97-A-804-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP041-P

Associated Equipment

Associated Emission Unit ID Number: EP041-U

Emission Unit vented through this Emission Point: EP041-U

Emission Unit Description: Plant Incidental Releases

Raw Material/Fuel: Process Gases

Average Release Potential: 228 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: EP042N-P, EP042S-P, EP043N-P, EP043S-P, EP044E-P and EP044W-P

Associated Equipment

Table Compressor-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (cfm)
EP042N-P	EP042-U	J-0102 Propylene Refrigeration Compressor	Propylene	50,139
EP042S-P	EP042-U	J-0102 Propylene Refrigeration Compressor	Propylene	50,139
EP043N-P	EP043-U	J-0103 Ethylene Refrigeration Compressor	Ethylene	6,121
EP043S-P	EP043-U	J-0103 Ethylene Refrigeration Compressor	Ethylene	6,121
EP044E-P	EP044-U	J-0104 Ethylene Refrigeration Compressor	Ethylene	6,251
EP044W-P	EP044-U	J-0104 Ethylene Refrigeration Compressor	Ethylene	6,251

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP045-P

Associated Equipment

Associated Emission Unit ID Number: EP045-U

Emission Unit vented through this Emission Point: EP045-U
Emission Unit Description: OAH Tripod Temporary Smokeless Flare
Raw Material/Fuel: Ethylene
Rated Capacity: 54 MMBtu/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There is no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: EP048 through EP050

Associated Equipment

Table Analyzer-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr, leaking rate)
EP048-P	EP048-U	H-108B Ethylene Analyzer House	Ethylene	6.96
EP049-P	EP049-U	H-112B Ethylene Analyzer House	Ethylene	0.0
EP050-P	EP050-U	H-115B Ethylene Analyzer House	Ethylene	3.86

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: EP051 and EP052 (Fugitive)

Associated Equipment

Table Fugitive-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
EP051-P	EP051-U	E-118 Quench Water Stripper Blowdown	Quench Water	200,160
EP052-P	EP052-U	E-129 Caustic Stripper Blowdown	Caustic	15,012

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

NESHAP Part 61 Subpart FF Requirements:

EP051-U and EP052-U are subject to part 61 subpart FF. Part 61 subpart FF is listed in Appendix E.

The facility shall determine the total annual benzene quantity from facility waste in compliance with 40 CFR 61.355(a)(1), (a)(2), (a)(6), (b), and (c).

Because the total annual benzene quantity from facility waste is equal to or greater than 11 tpy, the facility should comply with 40 CFR 61.355(a)(3) by complying with the control requirements of 40 CFR 61.342(c), (d), or (e), 346, 348 and record keeping and requirements of 40 CFR 61.356 and 357. However, per 40 CFR 342(c)(2), a waste stream is exempt from the control requirements provided that the facility demonstrates initially and, thereafter, at least once per year that the flow-weighted annual average benzene concentration for the waste stream is less than 10 ppmw as determined by the procedures specified in §61.355(c)(2) or §61.355(c)(3).

Authority for Requirement: 567 IAC 23.1(3)"n"
40 CFR 61 Subpart FF

Per 40 CFR 63.1100(g)(6)(ii), compliance with 40 CFR 63.1103(e) of part 63 subpart YY shall constitute compliance with the Benzene Waste Operations NESHAP (subpart FF of 40 CFR part 61) for waste streams that are subject to both the control requirements of §63.1103(e)(3) for ethylene production sources and the control requirements of 40 CFR part 61, subpart FF.

Authority for Requirement: 567 IAC 23.1(4)"ay"
40 CFR 63 Subpart YY

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP053-P

Associated Equipment

Associated Emission Unit ID Number: EP053-U

Emission Control Equipment ID Number: EP053CE1

Emission Control Equipment Description: Scienco Dust Collector

Emission Unit vented through this Emission Point: EP053-U

Emission Unit Description: US Filter Brine Silo (1 of 2)

Raw Material/Fuel: Rock Salt

Rated Capacity: 25 tons/load, 1 to 2 hr/load

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit: 40% ⁽¹⁾

Authority for Requirement: 567 IAC 23.3(2)"d" (Iowa DNR Construction Permit 01-A-1231)

⁽¹⁾ Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedence of the indicator opacity of "No Visible Emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. The permit holder shall also file an "indicator opacity exceedence report" with the DNR field office and keep records as required in the policy. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2)"a" (Iowa DNR Construction Permit 01-A-1231)

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operation Limit:

1. Owner/operator is limited to 240 hours of rock salt loading into Brine Silo (EP053-U) per rolling 12-month period.

Work Practice Standards:

1. Maintain Scienco Dust Collector according to manufactures specifications and maintenance schedule.

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

1. Record on a monthly basis, the number of hours Brine Silo (EP053-U) is loaded with rock salt. Calculate and record rolling 12-month totals.
2. Record on a monthly basis, all maintenance (if any) of Scienco Dust collector (EP053CE1).

Authority for Requirement: Iowa DNR Construction Permit 01-A-1231

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (from the ground): 8 ft
Discharge Style: Downward Discharge
Stack Opening (Diameter, inches): 8 in.
Exhaust Temperature (°F): Ambient
Exhaust Flowrate (scfm): 1,500 scfm

Authority for Requirement: Iowa DNR Construction Permit 01-A-1231

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP054-P

Associated Equipment

Associated Emission Unit ID Number: EP054-U
Emission Control Equipment ID Number: EP054CE1
Emission Control Equipment Description: Dust Collector

Emission Unit vented through this Emission Point: EP054-U
Emission Unit Description: US Filter Brine Silo (2 of 2)
Raw Material/Fuel: Rock Salt
Rated Capacity: 25 tons/load, 1 to 2 hr/load

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit: 40% ⁽¹⁾

Authority for Requirement: 567 IAC 23.3(2)"d" (Iowa DNR Construction Permit 03-A-547)

⁽¹⁾ Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an "indicator opacity exceedance report" with the DNR field office and keep records as required in the policy. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2)"a" (Iowa DNR Construction Permit 03-A-547)

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Work Practice Standards:

1. The control equipment shall be maintained according to the manufacturers specifications.

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

1. The owner or operator shall maintain a record of control equipment maintenance and inspection results.

Authority for Requirement: Iowa DNR Construction Permit 03-A-547

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (from the ground): 8 ft

Discharge Style: Downward

Stack Opening: Filter Bag, 38.5 inch diameter × 84 inches long

Exhaust Temperature (°F): Ambient

Exhaust Flowrate (scfm): 1,500 scfm

Authority for Requirement: Iowa DNR Construction Permit 03-A-547

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

III. B. High Density Polyethylene Production Lines

Emission Point ID Numbers: HD001A-P, and HD001B-P

Associated Equipment

Table Analyzer-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr, leaking rate)
HD001A-P	HD001A-U	PF-4 Analyzer House	Iso-Butane	0.015
HD001B-P	HD001B-U	PF-1 Bottom Analyzer House	Iso-Butane	0.030

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD002N-P and HD002S-P

Associated Equipment

Associated Emission Unit ID Number: HD002-U

Emission Unit vented through this Emission Point: HD002-U
Emission Unit Description: C-0316 Gas1 (D-0307) Activator Jacket Heater
Raw Material/Fuel: Non-sulfured Natural Gas
Rated Capacity: 10 MMBtu/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.8 lb/MMBtu ^(*)
^(*) Combined emission limit for both stacks EP002N-P and EP002S-P
Authority for Requirement: 567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO₂)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD004-P through HD007-P, HD008N-P, HD008S-P, HD009N-P, HD009S-P, HD010-P through HD019-P

Associated Equipment

Table Bin-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)	CE ID & Description	
HD004-P	HD004-U	F-0401A PF-1 Rundown Bin	Polyethylene Powder	14,000	HD004CE1 Cyclone	
HD005-P	HD005-U	F-0401B PF-1 Rundown Bin	Polyethylene Powder	14,000	HD005CE1 Cyclone	
HD006-P	HD006-U	F-0401C PF-1 Rundown Bin	Polyethylene Powder	14,000	HD006CE1 Cyclone	
HD007-P	HD007-U	F-0401D PF-1 Rundown Bin	Polyethylene Powder	14,000	HD007CE1 Cyclone	
HD008N-P	HD008A-U	F-0411C PF-3 Rundown Bin Through L-1417B Bag House	Polyethylene Powder	13,500	HD008CE3 Cyclone	HD008CE1 Baghouse
	HD008B-U	F-0411D PF-3 Rundown Bin Through L-1417B Bag House	Polyethylene Powder	13,500	HD008CE4 Cyclone	
	HD008C-U	F-0431C PF-2 Rundown Bin Through L-1417B Bag House	Polyethylene Powder	13,500	HD008CE5 Cyclone	
	HD008D-U	F-0431D PF-2 Rundown Bin Through L-1417B Bag House	Polyethylene Powder	13,500	HD008CE6 Cyclone	
HD008S-P	HD008E-U	F-0411A PF-3 Rundown Bin Through L-1417A Bag House	Polyethylene Powder	13,500	HD008CE7 Cyclone	HD008CE2 Baghouse
	HD008F-U	F-0411B PF-3 Rundown Bin Through L-1417A Bag House	Polyethylene Powder	13,500	HD008CE8 Cyclone	
	HD008G-U	F-0431A PF-2 Rundown Bin Through L-1417A Bag House	Polyethylene Powder	13,500	HD008CE9 Cyclone	
	HD008H-U	F-0431B PF-2 Rundown Bin Through L-1417A Bag House	Polyethylene Powder	13,500	HD008CE10 Cyclone	
HD009N-P	HD009A-U	F-0439A PF-4 Rundown Bin Through L-1416B Bag House	Polyethylene Powder	30,000	HD009CE3 Cyclone	HD009CE1 Baghouse
	HD009B-U	F-0439B PF-4 Rundown Bin Through L-1416B Bag House	Polyethylene Powder	30,000	HD009CE4 Cyclone	
	HD009C-U	F-0439C PF-4 Rundown Bin Through L-1416B Bag House	Polyethylene Powder	30,000	HD009CE5 Cyclone	
	HD009D-U	F-0439D PF-4 Rundown Bin Through L-1416B Bag House	Polyethylene Powder	30,000	HD009CE6 Cyclone	
HD009S-P	HD009E-U	F-0439E PF-4 Rundown Bin Through L-1416A Bag House	Polyethylene Powder	30,000	HD009CE7 Cyclone	HD009CE2 Baghouse
	HD009F-U	F-0439F PF-4 Rundown Bin Through L-1416A Bag House	Polyethylene Powder	30,000	HD009CE8 Cyclone	
	HD009G-U	F-0439G PF-4 Rundown Bin Through L-1416A Bag House	Polyethylene Powder	30,000	HD009CE9 Cyclone	
	HD009H-U	F-0439H PF-4 Rundown Bin Through L-1416A Bag House	Polyethylene Powder	30,000	HD009CE10 Cyclone	
HD010-P	HD010-U	F-0415A J-line Feed Bin	Polyethylene Powder	29,500	HD010CE1 Cyclone	
HD011-P	HD011-U	F-0415B J-line Feed Bin	Polyethylene Powder	29,500	HD011CE1 Cyclone	

Table Bin-1 (Continued)

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)	CE ID & Description
HD012-P	HD012-U	F-0421A A-line Feed Bin	Polyethylene Powder	9,000	HD012CE1 Cyclone
HD013-P	HD013-U	F-0421B B-line Feed Bin	Polyethylene Powder	9,000	HD013CE1 Cyclone
HD014-P	HD014-U	F-0422A A-line Feed Bin	Polyethylene Powder	9,000	HD014CE1 Cyclone
HD015-P	HD015-U	F-0422B B-line Feed Bin	Polyethylene Powder	9,000	HD015CE1 Cyclone
HD016-P	HD016-U	F-0423A A-line Feed Bin	Polyethylene Powder	9,000	HD016CE1 Cyclone
HD017-P	HD017-U	F-0423B B-line Feed Bin	Polyethylene Powder	9,000	HD017CE1 Cyclone
HD018-P	HD018-U	F-0462 F-line Feed Bin	Polyethylene Powder	24,000	HD018CE1 Cyclone
HD019-P	HD019-U	F-0463 F-line Feed Bin	Polyethylene Powder	24,000	HD019CE1 Cyclone
HD020-P	HD020-U	F-0918 PF4 Surge hopper	Polyethylene Powder	30,000	N/A

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Bin-2

EP	EU	Opacity	PM	PM ₁₀	Iowa DNR Construction Permit #
HD004-P	HD004-U	40%	15.1 lb/hr	N/A	N/A
HD005-P	HD005-U	40%	15.1 lb/hr	N/A	N/A
HD006-P	HD006-U	40%	15.1 lb/hr	N/A	N/A
HD007-P	HD007-U	40%	15.1 lb/hr	N/A	N/A
HD008N-P	HD008A-U	40%	14.7 lb/hr	0.30 lb/hr 1.30 tpy	94-A-110
	HD008B-U				
	HD008C-U				
	HD008D-U				
HD008S-P	HD008E-U	40%	14.7 lb/hr	0.30 lb/hr 1.30 tpy	94-A-109
	HD008F-U				
	HD008G-U				
	HD008H-U				
HD009N-P	HD009A-U	40%	0.296 lb/hr 1.30 tpy	N/A	93-A-158
	HD009B-U				
	HD009C-U				
	HD009D-U				
HD009S-P	HD009E-U	40%	0.296 lb/hr 1.30 tpy	N/A	93-A-157
	HD009F-U				
	HD009G-U				
	HD009H-U				
HD010-P	HD010-U	40%	24.9 lb/hr	N/A	78-A-075
HD011-P	HD011-U	40%	24.9 lb/hr	N/A	78-A-075

Table Bin-2 (Continued)

EP	EU	Opacity	PM	PM ₁₀	Iowa DNR Construction Permit #
HD012-P	HD012-U	40%	11.2 lb/hr	N/A	N/A
HD013-P	HD013-U	40%	11.2 lb/hr	N/A	N/A
HD014-P	HD014-U	40%	11.2 lb/hr	N/A	N/A
HD015-P	HD015-U	40%	11.2 lb/hr	N/A	N/A
HD016-P	HD016-U	40%	11.2 lb/hr	N/A	N/A
HD017-P	HD017-U	40%	11.2 lb/hr	N/A	N/A
HD018-P	HD018-U	40%	21.7 lb/hr	N/A	89-A-065
HD019-P	HD019-U	40%	21.7 lb/hr	N/A	89-A-065
HD020-P	HD020-U	40%	25.2 lb/hr	N/A	N/A

Table Bin-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	15.1, 14.7, 11.2, 21.7, and 25.2 lb/hr	567 IAC 23.3(2)"a"(2) based on rated capacity in table Bin-1 for each corresponding emission unit.
PM	24.9 lb/hr	Iowa DNR Construction Permits Referenced in Table Bin-2, and 567 IAC 23.3(2)"a"(2) based on rated capacity in table Bin-1 for each corresponding emission unit.
PM	0.296 lb/hr 1.30 tpy	Iowa DNR Construction Permits Referenced in Table Bin-2.
PM ₁₀	0.30 lb/hr 1.30 tpy	Iowa DNR Construction Permits Referenced in Table Bin-2.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NSPS Subpart DDD Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

Emission units HD009A-U through HD009H-U, HD018-U, and HD019-U are subject to NSPS subpart DDD. Per 40 CFR 60.560(g), the facility claims exception from the VOC control requirements of 40 CFR 60.562-1 because the vent streams emit annual uncontrolled total organic compounds (TOC) emission of less than 1.75 tpy, or with a weight percent TOC of less than 0.1 percent. All the reporting and record keeping requirements of 40 CFR 60.565(a), (a)(10), (h), (k), (k)(6), and (k)(7) shall be fulfilled. Above mentioned sections of subpart DDD are listed in Appendix A.

Authority for Requirement: Iowa DNR Construction Permit 89-A-065
567 IAC 23.1(2)"mmm", 40 CFR 60 Subpart DDD

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Bin-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
HD008N-P	HD008A-U	94-A-110	17' 2"	N/A	8'5/8" × 7'11/16"	Ambient	1,726 cfm
	HD008B-U						
	HD008C-U						
	HD008D-U						
HD008S-P	HD008E-U	94-A-109	17' 2"	N/A	8'5/8" × 7'11/16"	Ambient	1,726 cfm
	HD008F-U						
	HD008G-U						
	HD008H-U						
HD009N-P	HD009A-U	93-A-158	17' 2"	N/A	8.6 " × 7.7"	150 °F	1,500 cfm
	HD009B-U						
	HD009C-U						
	HD009D-U						
HD009S-P	HD009E-U	93-A-157	17' 2"	N/A	8.6 " × 7.7"	150 °F	1,500 cfm
	HD009F-U						
	HD009G-U						
	HD009H-U						

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Bin-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

EP	Test Required	Test Method	Demonstrate Compliance By	Authority for Requirement
HD004-P	PM ⁽¹⁾	Iowa Compliance Sampling Manual Method 5	June 14, 2006	567 IAC 22.108(3)
HD005-P				
HD006-P				
HD007-P				
HD008N-P	PM ⁽²⁾	Iowa Compliance Sampling Manual Method 5	June 14, 2006	567 IAC 22.108(3)
HD008S-P				
HD010-P	PM ⁽³⁾	Iowa Compliance Sampling Manual Method 5	June 14, 2006	567 IAC 22.108(3)
HD011-P				
HD012-P	PM ⁽⁴⁾	Iowa Compliance Sampling Manual Method 5	June 14, 2006	567 IAC 22.108(3)
HD013-P				
HD014-P				
HD015-P				
HD016-P				
HD017-P				
HD018-P	PM ⁽⁵⁾	Iowa Compliance Sampling Manual Method 5	June 14, 2006	567 IAC 22.108(3)
HD019-P				

⁽¹⁾ Successfully testing any one of stacks HD004-P through HD007-P will fulfill the stack testing requirements for HD004-P through HD007-P.

⁽²⁾ Successfully testing any one of stacks HD008N-P and HD008S-P will fulfill the stack testing requirements for HD008N-P and HD008S-P.

⁽³⁾ Successfully testing any one of stacks HD010-P and HD011-P will fulfill the stack testing requirements for HD010-P and HD011-P.

⁽⁴⁾ Successfully testing any one of stacks HD012-P through HD017-P will fulfill the stack testing requirements for HD012-P through HD017-P.

⁽⁵⁾ Successfully testing any one of stacks HD018-P and HD019-P will fulfill the stack testing requirements for HD018-P and HD019-P.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility O&M plans are required for baghouses HD008CE1, HD008CE2, HD009CE1, and HD009CE2, and cyclones HD004CE1, HD005CE1, HD006CE1, HD007CE1, HD008CE3,

HD008CE4, HD008CE5, HD008CE6, HD008CE7, HD008CE8, HD008CE9, HD008CE10, HD009CE3, HD009CE4, HD009CE5, HD009CE6, HD009CE7, HD009CE8, HD009CE9, HD009CE10, HD010CE1, HD011CE1, HD012CE1, HD013CE1, HD014CE1, HD015CE1, HD016CE1, HD017CE1, HD018CE1, and HD019CE1.

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD021-P through HD045-P

Associated Equipment

Table Compressors, Pumps and Surge Conveyors

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
HD021-P	HD021-U	J-0303A PF-1 Recycle Compressor	Iso-Butane	967 cfm
HD022-P	HD022-U	J-0303B PF-1 Recycle Compressor	Iso-Butane	967 cfm
HD023-P	HD023-U	J-0305A PF-1 Recycle IC4 Pump	Iso-Butane	29 gpm
HD024-P	HD024-U	J-0305B PF-1 Recycle IC4 Pump	Iso-Butane	29 gpm
HD025-P	HD025-U	J-0306A PF-1 Fresh IC4 Pump	Iso-Butane	15 gpm
HD026-P	HD026-U	J-0306B PF-1 Fresh IC4 Pump	Iso-Butane	15 gpm
HD027-P	HD027-U	J-0603 PF-2/3 Recycle Compressor	Iso-Butane	907 cfm
HD028-P	HD028-U	J-0604 PF-2/3 Recycle Compressor	Iso-Butane	907 cfm
HD029-P	HD029-U	J-0605 PF-2/3 Recycle Compressor	Iso-Butane	907 cfm
HD030-P	HD030-U	J-0611 PF-2/3 Recycle IC4 Pump	Iso-Butane	50.2 gpm
HD031-P	HD031-U	J-0612 PF-2/3 Recycle IC4 Pump	Iso-Butane	50.2 gpm
HD032-P	HD032-U	J-0613 PF-2/3 Recycle IC4 Pump	Iso-Butane	50.2 gpm
HD033-P	HD033-U	J-0623 IC4 Recovery Compressor	Iso-Butane	196 cfm
HD034-P	HD034-U	J-0902A PF-4 Recycle IC4 Transfer Pump	Iso-Butane	85 gpm
HD035-P	HD035-U	J-0902B PF-4 Recycle IC4 Transfer Pump	Iso-Butane	85 gpm
HD036-P	HD036-U	J-0908A PF-4 Recycle Compressor	Iso-Butane	138,600 cfm
HD037-P	HD037-U	J-0908B PF-4 Recycle Compressor	Iso-Butane	138,600 cfm
HD038-P	HD038-U	J-0908C PF-4 Recycle Compressor	Iso-Butane	138,600 cfm
HD039-P	HD039-U	J-0301 PF-1 Reactor Pump	Iso-Butane, Ethylene	23,400 gpm
HD040-P	HD040-U	J-0601 PF-3 Reactor Pump	Iso-Butane, Ethylene	23,400 gpm
HD041-P	HD041-U	J-0602 PF-2 Reactor Pump	Iso-Butane, Ethylene	23,400 gpm
HD042-P	HD042-U	J-0903 PF-4 Reactor Pump	Iso-Butane, Ethylene	33,900 gpm
HD043-P	HD043-U	L-0302 PF-1 Purge Conveyor	Purge Gas	169 cfm
HD044-P	HD044-U	L-0603 PF-3 Purge Conveyor	Purge Gas	215 cfm
HD045-P	HD045-U	L-0604 PF-2 Purge Conveyor	Purge Gas	194 cfm

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD046-P through HD048-P

Associated Equipment

Table Bin-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
HD046-P	HD046-U	VF-0402 PF-1 Surge Bin	Polyethylene Powder	14,000
HD047-P	HD047-U	VF-0432A PF-3 Surge Bin	Polyethylene Powder	13,500
HD048-P	HD048-U	VF-0432B PF-2 Surge Bin	Polyethylene Powder	13,500

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Bin-2

EP	EU	Opacity	PM
HD046-P	HD046-U	40%	15.1 lb/hr
HD047-P	HD047-U	40%	14.7 lb/hr
HD048-P	HD048-U	40%	14.7 lb/hr

Table Bin-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	15.1 and 14.7 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Bin-1 for each corresponding unit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD049A-P and HD049C-P

Associated Equipment

Table Scrubber-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
HD049A-P	HD049A-U	Scrubber for GAS1 D-0307	Catalyst	13.8
HD049C-P	HD049C-U	Scrubber for Electric1 D-0310	Catalyst	15.0

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Scrubber-2

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
HD049A-P	HD049A-U	40%	0.15 lb/hr	N/A
HD049C-P	HD049C-U	40% ⁽¹⁾	0.1 gr/dscf	03-A-1013

⁽¹⁾ Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an “indicator opacity exceedance report” with the DNR field office and keep records as required in the policy. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Table Scrubber-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	Iowa DNR Construction Permit Referenced in Table Scrubber-2, 567 IAC 23.3(2)"d"
PM	0.15 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Scrubber-1 for the corresponding unit.
PM	0.1 gr/dscf	Iowa DNR Construction Permit Referenced in Table Scrubber-2, 567 IAC 23.3(2)"a"

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Scrubber-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
HD049A-P	HD049A-U	N/A	N/A	N/A	N/A	N/A	N/A
HD049C-P	HD049C-U	03-A-1013	20'	Vertical, obstructed	4"	100 °F	64 scfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Scrubber-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD050A-P through HD050D-P & HD051-P

Associated Equipment

Table Dust-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
HD050A-P	HD050A-U	L-0426A A-Line Dust Collector	Polyethylene Powder	9,000
HD050B-P	HD050B-U	L-0426B B-Line Dust Collector	Polyethylene Powder	9,000
HD050C-P	HD050C-U	L-0470 F-Line Dust Collector	Polyethylene Powder	24,000
HD050D-P	HD050D-U	L-0410 J-Line Dust Collector	Polyethylene Powder	29,500
HD051-P	HD051-U	J-1402 Additive Vacuum System	Additives	57

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Dust-2

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
HD050A-P	HD050A-U	40%	11.2 lb/hr	N/A
HD050B-P	HD050B-U	40%	11.2 lb/hr	N/A
HD050C-P	HD050C-U	40%	21.7 lb/hr	89-A-070
HD050D-P	HD050D-U	40% ⁽¹⁾	0.1 gr/dscf	03-A-1014
HD051-P	HD051-U	40% ⁽¹⁾	0.1 gr/dscf	03-A-1015

⁽¹⁾ Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an “indicator opacity exceedance report” with the DNR field office and keep records as required in the policy. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Table Dust -3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	Iowa DNR Construction Permit Referenced in Table Dust-2, 567 IAC 23.3(2)"d"
PM	11.2 & 21.7 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Dust-1 for each corresponding unit.
PM	0.1 gr/dscf	Iowa DNR Construction Permits Referenced in Table Dust-2, 567 IAC 23.3(2)"a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NSPS Subpart DDD Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

Emission unit HD050C-U is subject to NSPS subpart DDD. Per 40 CFR 60.560(g), the facility claims exception from the VOC control requirements of 40 CFR 60.562-1 because the vent stream emits annual uncontrolled total organic compounds (TOC) emission of less than 1.75 tpy, or with a weight percent TOC of less than 0.1 percent. All the reporting and record keeping requirements of 40 CFR 60.565(a), (a)(10), (h), (k), (k)(6), and (k)(7) shall be fulfilled. Above mentioned sections of subpart DDD are listed in Appendix A.

Authority for Requirement: Iowa DNR Construction Permit 89-A-070
567 IAC 23.1(2)"mmm"
40 CFR 60 Subpart DDD

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Dust-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
HD050D-P	HD050D-U	03-A-1014	22'	Horizontal	6"	200 °F	120 scfm
HD051-P	HD051-U	03-A-1015	7'	Horizontal	4"	250 °F	220 scfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Dust-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the

emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD052-P through HD074-P

Associated Equipment

Table Bin-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)	CE ID & Description
HD052-P	HD052-U	F-0402A PF Storage Bin	Polyethylene Powder	30,000	HD052CE1 Cyclone
HD053-P	HD053-U	F-0402B PF Storage Bin	Polyethylene Powder	30,000	HD053CE1 Cyclone
HD054-P	HD054-U	F-0402C PF Storage Bin	Polyethylene Powder	30,000	HD054CE1 Cyclone
HD055-P	HD055-U	F-0402D PF Storage Bin	Polyethylene Powder	30,000	HD055CE1 Cyclone
HD056-P	HD056-U	F-0402E PF Storage Bin	Polyethylene Powder	30,000	HD056CE1 Cyclone
HD057-P	HD057-U	F-0432A PF Storage Bin	Polyethylene Powder	30,000	HD057CE1 Cyclone
HD058-P	HD058-U	F-0432B PF Storage Bin	Polyethylene Powder	30,000	HD058CE1 Cyclone
HD059-P	HD059-U	F-0432C PF Storage Bin	Polyethylene Powder	30,000	HD059CE1 Cyclone
HD060-P	HD060-U	F-0432D PF Storage Bin	Polyethylene Powder	30,000	HD060CE1 Cyclone
HD061-P	HD061-U	F-0432E PF Storage Bin	Polyethylene Powder	30,000	HD061CE1 Cyclone
HD062-P	HD062-U	F-0412A PF Storage Bin	Polyethylene Powder	30,000	HD062CE1 Cyclone
HD063-P	HD063-U	F-0412B PF Storage Bin	Polyethylene Powder	30,000	HD063CE1 Cyclone
HD064-P	HD064-U	F-0412C PF Storage Bin	Polyethylene Powder	30,000	HD064CE1 Cyclone
HD065-P	HD065-U	F-0412D PF Storage Bin	Polyethylene Powder	30,000	HD065CE1 Cyclone
HD066-P	HD066-U	F-0412E PF Storage Bin	Polyethylene Powder	30,000	HD066CE1 Cyclone
HD067-P	HD067-U	F-0412F PF Storage Bin	Polyethylene Powder	30,000	HD067CE1 Cyclone
HD068-P	HD068-U	F-0412G PF Storage Bin	Polyethylene Powder	30,000	HD068CE1 Cyclone

Table Bin-1 (Continued)

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)	CE ID & Description
HD069-P	HD069-U	F-0412H PF Storage Bin	Polyethylene Powder	30,000	HD069CE1 Cyclone
HD070-P	HD070-U	F-0412J PF Storage Bin	Polyethylene Powder	30,000	HD070CE1 Cyclone
HD071-P	HD071-U	F-0412K PF Storage Bin	Polyethylene Powder	30,000	HD071CE1 Cyclone
HD072-P	HD072-U	F-0404A Plexar Storage/Feed Bin	Polyethylene Powder	500	HD072CE1 Cyclone
HD073-P	HD073-U	F-0404B Plexar Storage/Feed Bin	Polyethylene Powder	500	HD073CE1 Cyclone
HD074-P	HD074-U	F-0404C Plexar Rundown Bin	Polyethylene Pellets	500	N/A

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Bin-2

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
HD052-P	HD052-U	40%	25.2 lb/hr	N/A
HD053-P	HD053-U	40%	25.2 lb/hr	N/A
HD054-P	HD054-U	40%	25.2 lb/hr	N/A
HD055-P	HD055-U	40%	25.2 lb/hr	N/A
HD056-P	HD056-U	40%	25.2 lb/hr	N/A
HD057-P	HD057-U	40%	25.2 lb/hr	N/A
HD058-P	HD058-U	40%	25.2 lb/hr	N/A
HD059-P	HD059-U	40%	25.2 lb/hr	N/A
HD060-P	HD060-U	40%	25.2 lb/hr	N/A
HD061-P	HD061-U	40%	25.2 lb/hr	N/A
HD062-P	HD062-U	40%	25.2 lb/hr	78-A-074
HD063-P	HD063-U	40%	25.2 lb/hr	78-A-074
HD064-P	HD064-U	40%	25.2 lb/hr	78-A-074
HD065-P	HD065-U	40%	25.2 lb/hr	78-A-074
HD066-P	HD066-U	40%	25.2 lb/hr	78-A-074
HD067-P	HD067-U	40%	25.2 lb/hr	78-A-074
HD068-P	HD068-U	40%	25.2 lb/hr	78-A-074
HD069-P	HD069-U	40%	25.2 lb/hr	78-A-074

Table Bin-2 (Continued)

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
HD070-P	HD070-U	40%	25.2 lb/hr	78-A-074
HD071-P	HD071-U	40%	25.2 lb/hr	78-A-074
HD072-P	HD072-U	40%	1.62 lb/hr	80-A-075
HD073-P	HD073-U	40%	1.62 lb/hr	80-A-076
HD074-P	HD074-U	40%	1.62 lb/hr	N/A

Table Bin-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	25.2, and 1.62 lb/hr	Iowa DNR construction permits referenced in Table Bin-2, and 567 IAC 23.3(2)"a"(2) based on the rated capacity in Table Bin-1 for each corresponding unit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant – PM ⁽¹⁾

Stack Test to be Completed by - June 14, 2006

Test Method - Iowa Compliance Sampling Manual Method 5

Authority for Requirement - 567 IAC 22.108(3)

⁽¹⁾ Successfully testing any one of the stacks HD052-P through HD071-P will fulfill the testing requirements for HD052-P through HD071-P.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility O&M plans are required for cyclones HD052CE1, HD053CE1, HD054CE1, HD055CE1, HD056CE1, HD057CE1, HD058CE1, HD059CE1, HD060CE1, HD061CE1, HD062CE1, HD063CE1, HD064CE1, HD065CE1, HD066CE1, HD067CE1, HD068CE1, HD069CE1, HD070CE1, HD071CE1, HD072CE1, and HD073CE1.

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD075-P through HD091-P

Associated Equipment

Table Blender-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
HD075-P	HD075-U	F-0444A Pellet Blender	Polyethylene Pellets	9,000
HD076-P	HD076-U	F-0444B Pellet Blender	Polyethylene Pellets	9,000
HD077-P	HD077-U	F-0444C Pellet Blender	Polyethylene Pellets	24,000
HD078-P	HD078-U	F-0444D Pellet Blender	Polyethylene Pellets	24,000
HD079-P	HD079-U	F-0444E Pellet Blender	Polyethylene Pellets	24,000
HD080-P	HD080-U	F-0444F Pellet Blender	Polyethylene Pellets	24,000
HD081-P	HD081-U	F-0441A Pellet Blender	Polyethylene Pellets	9,000
HD082-P	HD082-U	F-0441B Pellet Blender	Polyethylene Pellets	9,000
HD083-P	HD083-U	F-0445 Pellet Blender	Polyethylene Pellets	9,000
HD084-P	HD084-U	F-0437A Pellet Blender	Polyethylene Pellets	29,500
HD085-P	HD085-U	F-0437B Pellet Blender	Polyethylene Pellets	29,500
HD086-P	HD086-U	F-0437C Pellet Blender	Polyethylene Pellets	29,500
HD087-P	HD087-U	F-0437D Pellet Blender	Polyethylene Pellets	29,500
HD088-P	HD088-U	F-0437E Pellet Blender	Polyethylene Pellets	29,500
HD089-P	HD089-U	F-0437F Pellet Blender	Polyethylene Pellets	29,500
HD090-P	HD090-U	F-0437G Pellet Blender	Polyethylene Pellets	29,500
HD091-P	HD091-U	F-0437H Pellet Blender	Polyethylene Pellets	29,500

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Blender-2

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
HD075-P	HD075-U	40%	11.2 lb/hr	N/A
HD076-P	HD076-U	40%	11.2 lb/hr	N/A
HD077-P	HD077-U	40%	21.7 lb/hr	89-A-067 89-A-068
HD078-P	HD078-U	40%	21.7 lb/hr	
HD079-P	HD079-U	40%	21.7 lb/hr	
HD080-P	HD080-U	40%	21.7 lb/hr	
HD081-P	HD081-U	40%	11.2 lb/hr	N/A
HD082-P	HD082-U	40%	11.2 lb/hr	N/A
HD083-P	HD083-U	40%	11.2 lb/hr	N/A
HD084-P	HD084-U	40%	24.9 lb/hr	89-A-067 89-A-068
HD085-P	HD085-U	40%	24.9 lb/hr	
HD086-P	HD086-U	40%	24.9 lb/hr	
HD087-P	HD087-U	40%	24.9 lb/hr	
HD088-P	HD088-U	40%	24.9 lb/hr	
HD089-P	HD089-U	40%	24.9 lb/hr	
HD090-P	HD090-U	40%	24.9 lb/hr	
HD091-P	HD091-U	40%	24.9 lb/hr	

Table Blender-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	11.2, 21.7 and 24.9 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Blender-1 for each corresponding unit.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NSPS Subpart DDD Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

Emission units HD077-U, HD078-U, HD079-U, HD080-U, HD084-U, HD085-U, HD086-U, HD087-U, HD088-U, HD089-U, HD090-U, and HD091-U are subject to NSPS subpart DDD. Per 40 CFR 60.560(g), the facility claims exception from the VOC control requirements of 40 CFR 60.562-1 because the vent streams emit annual uncontrolled total organic compounds

(TOC) emission of less than 1.75 tpy, or with a weight percent TOC of less than 0.1 percent. All the reporting and record keeping requirements of 40 CFR 60.565(a), (a)(10), (h), (k), (k)(6), and (k)(7) shall be fulfilled. Above mentioned sections of subpart DDD are listed in Appendix A.

Authority for Requirement: Iowa DNR Construction Permits 89-A-067 and 89-A-068
567 IAC 23.1(2)"mmm"
40 CFR 60 Subpart DDD

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

The permittee claims small unit exemption for HD083-P (HD083-U: F-0445 Pellet Blender) from the requirements of applying for a construction permit per 567 IAC 22.1(2)"w". The "exemption justification document" must be maintained to justify the exemption in compliance with 567 IAC 22.1(2)"w"(3)

Authority for Requirement: 567 IAC 22.1(2)"w"(3)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD092-P through HD107-P

Associated Equipment

Table Bin-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
HD092-P	HD092-U	F-0443A Pellet Storage Bin	Polyethylene Pellets	60,000
HD093-P	HD093-U	F-0443B Pellet Storage Bin	Polyethylene Pellets	60,000
HD094-P	HD094-U	F-0443C Pellet Storage Bin	Polyethylene Pellets	60,000
HD095-P	HD095-U	F-0443D Pellet Storage Bin	Polyethylene Pellets	60,000
HD096-P	HD096-U	F-0443E Pellet Storage Bin	Polyethylene Pellets	60,000
HD097-P	HD097-U	F-0443F Pellet Storage Bin	Polyethylene Pellets	60,000
HD098-P	HD098-U	F-0443G Pellet Storage Bin	Polyethylene Pellets	60,000
HD099-P	HD099-U	F-0443H Pellet Storage Bin	Polyethylene Pellets	60,000
HD100-P	HD100-U	F-0443J Pellet Storage Bin	Polyethylene Pellets	60,000
HD101-P	HD101-U	F-0443K Pellet Storage Bin	Polyethylene Pellets	60,000
HD102-P	HD102-U	F-0443L Pellet Storage Bin	Polyethylene Pellets	60,000
HD103-P	HD103-U	F-0443M Pellet Blending Silo	Polyethylene Pellets	60,000
HD104-P	HD104-U	F-0447A Divert Quad Bin	Polyethylene Pellets	18,000
HD105-P	HD105-U	F-0447B Divert Quad Bin	Polyethylene Pellets	18,000
HD106-P	HD106-U	F-0447C Divert Quad Bin	Polyethylene Pellets	18,000
HD107-P	HD107-U	F-0447D Divert Quad Bin	Polyethylene Pellets	18,000

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Bin-2

EP	EU	Opacity	PM
HD092-P	HD092-U	40%	40.0 lb/hr
HD093-P	HD093-U	40%	40.0 lb/hr
HD094-P	HD094-U	40%	40.0 lb/hr
HD095-P	HD095-U	40%	40.0 lb/hr
HD096-P	HD096-U	40%	40.0 lb/hr
HD097-P	HD097-U	40%	40.0 lb/hr
HD098-P	HD098-U	40%	40.0 lb/hr
HD099-P	HD099-U	40%	40.0 lb/hr
HD100-P	HD100-U	40%	40.0 lb/hr
HD101-P	HD101-U	40%	40.0 lb/hr
HD102-P	HD102-U	40%	40.0 lb/hr
HD103-P	HD103-U	40%	40.0 lb/hr
HD104-P	HD104-U	40%	17.9 lb/hr
HD105-P	HD105-U	40%	17.9 lb/hr
HD106-P	HD106-U	40%	17.9 lb/hr
HD107-P	HD107-U	40%	17.9 lb/hr

Table Bin-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	40.0, and 17.9 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Bin-1 for each corresponding unit.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

The permittee claims small unit exemption for emission units HD104-U, HD105-U, HD106-U, and HD107-U from the requirements of applying for construction permits per 567 IAC 22.1(2)"w". The "exemption justification document" must be maintained to justify the exemption in compliance with 567 IAC 22.1(2)"w"(3)

Authority for Requirement: 567 IAC 22.1(2)"w"(3)

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD108-P (Fugitive)

Associated Equipment

Associated Emission Unit ID Number: HD108-U

Emission Unit vented through this Emission Point: HD108-U

Emission Unit Description: High Density Fugitives

Raw Material/Fuel: Iso-Butane

Rated Capacity: 8760 hr/yr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD109-P through HD116-P

Associated Equipment

Table Bin-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
HD109-P	HD109-U	F-0438A Divert Quad Bin	Polyethylene Pellets	29,500
HD110-P	HD110-U	F-0438B Divert Quad Bin	Polyethylene Pellets	29,500
HD111-P	HD111-U	F-0438C Divert Quad Bin	Polyethylene Pellets	29,500
HD112-P	HD112-U	F-0438D Divert Quad Bin	Polyethylene Pellets	29,500
HD113-P	HD113-U	F-0442A Divert Quad Bin	Polyethylene Pellets	18,000
HD114-P	HD114-U	F-0442B Divert Quad Bin	Polyethylene Pellets	18,000
HD115-P	HD115-U	F-0442C Divert Quad Bin	Polyethylene Pellets	18,000
HD116-P	HD116-U	F-0442D Divert Quad Bin	Polyethylene Pellets	18,000

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Bin-2

EP	EU	Opacity	PM
HD109-P	HD109-U	40%	24.9 lb/hr
HD110-P	HD110-U	40%	24.9 lb/hr
HD111-P	HD111-U	40%	24.9 lb/hr
HD112-P	HD112-U	40%	24.9 lb/hr
HD113-P	HD113-U	40%	17.9 lb/hr
HD114-P	HD114-U	40%	17.9 lb/hr
HD115-P	HD115-U	40%	17.9 lb/hr
HD116-P	HD116-U	40%	17.9 lb/hr

Table Bin-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	17.9 and 24.9 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Bin-1 for each corresponding unit.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

The permittee claims small unit exemption for emission units HD109-U, HD110-U, HD111-U, HD112-U from the requirements of applying for construction permits per 567 IAC 22.1(2)"w". The "exemption justification document" must be maintained to justify the exemption in compliance with 567 IAC 22.1(2)"w"(3)

Authority for Requirement: 567 IAC 22.1(2)"w"(3)

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD117-P (Fugitive)

Associated Equipment

Associated Emission Unit ID Number: HD117-U

Emission Unit vented through this Emission Point: HD117-U

Emission Unit Description: L-0918 PF4 Purge Conveyor

Raw Material/Fuel: Purge Gas

Rated Capacity: 522 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: HD118-P

Associated Equipment

Associated Emission Unit ID Number: HD118-U

Emission Unit vented through this Emission Point: HD118-U
Emission Unit Description: F-0425 Plexar Maleic Anhydride Tank
Raw Material/Fuel: Unreacted Monomer
Rated Capacity: 1,000 gal

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD119-P through HD125-P

Associated Equipment

Table Dryer -1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
HD119-P	HD119-U	L-0428A A-line Pellet Dryer	Polyethylene Pellets	9,000
HD120-P	HD120-U	L-0428B B-line Pellet Dryer	Polyethylene Pellets	9,000
HD121-P	HD121-U	L-1409 F-line Spin Dryer	Polyethylene Pellets	24,000
HD122-P	HD122-U	L-0413 J-line Spin Dryer	Polyethylene Pellets	29,500
HD123-P	HD123-U	L-0406A Plexar Graft Dryer	Polyethylene Pellets	500
HD124-P	HD124-U	L-0477 D-line Pellet Dryer	Polyethylene Pellets	7,000
HD125-P	HD125-U	L-0487 E-line Pellet Dryer	Polyethylene Pellets	7,000

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Dryer-2

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
HD119-P	HD119-U	40%	11.2 lb/hr	N/A
HD120-P	HD120-U	40%	11.2 lb/hr	N/A
HD121-P	HD121-U	40%	21.7 lb/hr	89-A-066 89-A-069
HD122-P	HD122-U	40%	24.9 lb/hr	N/A
HD123-P	HD123-U	40%	1.62 lb/hr	N/A
HD124-P	HD124-U	40%	9.49 lb/hr	N/A
HD125-P	HD125-U	40%	9.49 lb/hr	N/A

Table Dryer-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	11.2, 21.7, 24.9, 1.62 and 9.49 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Dryer-1 for each corresponding unit.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NSPS Subpart DDD Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

Emission unit HD121-U is subject to NSPS subpart DDD. Per 40 CFR 60.560(g), the facility claims exception from the VOC control requirements of 40 CFR 60.562-1 because the vent stream emits annual uncontrolled total organic compounds (TOC) emission of less than 1.75 tpy, or with a weight percent TOC of less than 0.1 percent. All the reporting and record keeping requirements of 40 CFR 60.565(a), (a)(10), (h), (k), (k)(6), and (k)(7) shall be fulfilled. Above mentioned sections of subpart DDD are listed in Appendix A.

Authority for Requirement: Iowa DNR Construction Permits 89-A-066 and 89-A-069
567 IAC 23.1(2)"mmm"
40 CFR 60 Subpart DDD

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

The permittee claims small unit exemption for emission units HD119-U and HD120-U from the requirements of applying for a construction permit per 567 IAC 22.1(2)"w". The "exemption justification document" must be maintained to justify the exemption in compliance with 567 IAC 22.1(2)"w"(3)

Authority for Requirement: 567 IAC 22.1(2)"w"(3)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD126-P through HD129-P, HD130A-P, HD130B-P, HD132A-P and HD132B-P

Associated Equipment

Table Bin-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)	CE ID & Description
HD126-P	HD126-U	F-0455 E-Line Feed Bin	Polyethylene Pellets	7,000	N/A
HD127-P	HD127-U	F-0456 E-Line Feed Bin	Polyethylene Pellets	7,000	N/A
HD128-P	HD128-U	F-0464 D-Line Feed Bin	Polyethylene Pellets	7,000	N/A
HD129-P	HD129-U	F-0465 D-Line Feed Bin	Polyethylene Pellets	7,000	N/A
HD130A-P HD130B-P	HD130-U	F-0498 E-Line Additive Bin	Polyethylene Pellets, Additives	7,000	HD130CE1 Cyclone
HD132A-P HD132B-P	HD132-U	F-0497 D-Line Additive Bin	Polyethylene Pellets, Additives	7,000	HD132CE1 Cyclone

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Bin-2

EP	EU	Opacity	PM	PM ₁₀	Iowa DNR Construction Permit #
HD126-P	HD126-U	40%	4.55 lb/hr	N/A	N/A
HD127-P	HD127-U	40%	4.55 lb/hr	N/A	N/A
HD128-P	HD128-U	40%	4.55 lb/hr	N/A	N/A
HD129-P	HD129-U	40%	4.55 lb/hr	N/A	N/A
HD130A-P	HD130-U	40%	1.2 lb/hr	0.1 lb/hr	03-A-1016
HD130B-P		40%	1.2 lb/hr	0.1 lb/hr	03-A-1017
HD132A-P	HD132-U	40%	1.2 lb/hr	0.1 lb/hr	03-A-1018
HD132B-P		40%	1.2 lb/hr	0.1 lb/hr	03-A-1019

Table Bin-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	Iowa DNR Construction Permits Referenced in Table Bin-2, 567 IAC 23.3(2)"d"
PM	4.55 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Bin-1 for each corresponding unit.
PM	1.2 lb/hr	Iowa DNR Construction Permits Referenced in Table Bin-2, 567 IAC 23.3(2)"a"
PM ₁₀	0.1 lb/hr	Iowa DNR Construction Permits Referenced in Table Bin-2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Bin-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
HD130A-P	HD130-U	03-A-1016	100'	Vertical, obstructed	6"	115 °F	360 scfm
HD130B-P		03-A-1017	100'	Downward	16" × 16"	115 °F	360 scfm
HD132A-P	HD132-U	03-A-1018	100'	Vertical, obstructed	6"	115 °F	360 scfm
HD132B-P		03-A-1019	100'	Downward	16" × 16"	115 °F	360 scfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Bin-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐
 Facility O&M plans are required for cyclones HD130CE1, and HD132CE1.

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD134-P through HD136-P

Associated Equipment

Table Plexar-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)	CE ID & Description
HD134-P	HD134-U	L-4001 Plexar Extruder	Polyethylene Slurry	500	N/A
HD135-P	HD135A-U	F-0410A Quality Control Bin	Polyethylene Pellets	500	N/A
	HD135B-U	F-0410B Quality Control Bin	Polyethylene Pellets	500	N/A
HD136-P	HD136-U	F-0408 Plexar Weigh Hopper	Polyethylene Powder	500	HD136CE1 Cyclone

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Plexar-2

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
HD134-P	HD134-U	40%	1.62 lb/hr	N/A
HD135-P	HD135A-U	40% ⁽¹⁾	0.1 gr/dscf	03-A-1020
	HD135B-U			
HD136-P	HD136-U	40%	1.62 lb/hr	80-A-077

⁽¹⁾ Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an “indicator opacity exceedance report” with the DNR field office and keep records as required in the policy. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Table Plexar-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d", and for EP135-P only: Iowa DNR Construction Permit Referenced in Table Plexar-2
PM	1.62 lb/hr	Iowa DNR construction permit referenced in Table Plexar-2, and 567 IAC 23.3(2)"a"(2) based on the rated capacity in Table Plexar-1 for each corresponding unit.
PM	0.1 gr/dscf	Iowa DNR Construction Permit Referenced in Table Plexar-2, 567 IAC 23.3(2)"a".

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Plexar-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
HD135-P	HD135A-U	03-A-1020	22'	Horizontal	2"	120 °F	330 scfm
	HD135B-U						

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Plexar-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility O&M plans are required for cyclone HD136CE1.

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD137-P through HD140-P

Associated Equipment

Table Pumps

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
HD137-P	HD137-U	J-0316A Hexene Transfer Pump	Hexene	13 gpm
HD138-P	HD138-U	J-0316B Hexene Transfer Pump	Hexene	13 gpm
HD139-P	HD139-U	J-0304A Iso-Butane Reflux Pump	Iso-Butane	50 gpm
HD140-P	HD140-U	J-0304B Iso-Butane Reflux Pump	Iso-Butane	50 gpm

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: HD141-P through HD143-P

Associated Equipment

Table Activator-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity	CE ID & Description
HD141-P	HD141-U	DB-0910 Gas 2 (D-0910) Activator Jacket Heater	Non-sulfured Natural Gas	5 MMBtu/hr	N/A
HD142-P		F-0926 Gas 2 Activator External Filter	Catalyst	15,000 scf	N/A
HD143-P		Gas II Catalyst Activator	Catalyst	15,000 scf	HD143CE1 Coalescing Filter

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Activator-2

EP	EU	Opacity	PM	SO ₂	VOC	Total HAP	Iowa DNR Construction Permit #
HD141-P	HD141-U	40% ⁽¹⁾	0.8 lb/mmbtu	500 ppmv	N/A	N/A	99-A-422
HD142-P		40% ⁽²⁾	0.1 gr/dscf	N/A	39.3 tpy ⁽³⁾	9.4 tpy ⁽³⁾	90-A-406-S4
HD143-P		40% ⁽²⁾	0.1 gr/dscf	N/A			01-A-585

⁽¹⁾ If an opacity of 25% or greater is observed other than at startup, shutdown or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

⁽²⁾ Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedence of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. The permit holder shall also file an “indicator opacity exceedence report” with the DNR field office and keep records as required in the policy. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

⁽³⁾ Total over units that exhaust through stacks permitted as 90-A-406-S4 (HD142-P) and 01-A-585 (HD143-P).

Table Activator-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	Iowa DNR Construction Permits Referenced in Table Activator-2, 567 IAC 23.3(2)"d"
PM	0.8 lb/MMBtu	Iowa DNR Construction Permit Referenced in Table Activator-2, 567 IAC 23.3(2)"b"(1)
PM	0.1 gr/dscf	Iowa DNR Construction Permits Referenced in Table Activator-2, 567 IAC 23.3(2)"a"
SO ₂	500 ppmv	567 IAC 23.3(3)"e"
VOC	39.3 tpy	Iowa DNR Construction Permits Referenced in Table Activator-2
Total HAP	9.4 tpy	Iowa DNR Construction Permits Referenced in Table Activator-2

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operation Limits:

1. The source permitted as 99-A-422 (EU HD141-U: Activator Jacket Heater) shall be limited to combusting natural gas only.
2. Catalysts processed shall have a maximum HAP content of 0.11 lb HAP/lb catalyst, and a maximum VOC content of 0.46 lb VOC/lb catalyst.
3. The sources that vent through the stacks permitted as 90-A-406-S4 and 01-A-585 shall use no more than 171,000 lb catalyst per twelve month rolling period.
4. EP HD142-P (90-A-406-S4) shall not be used for venting emissions when activating "wire and cable" catalysts.
5. Emissions from this source shall be vented through EP HD143-P (01-A-585) when activating any "wire and cable" catalysts.

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

1. The owner or operator shall keep a record of the amount of catalyst processed, and update the twelve month rolling total on a monthly basis.
2. The owner or operator shall keep records of the type of catalysts used in the activator, which shall include information on the lbs VOC/lbs catalyst and the lbs HAP/lbs catalyst, along with information as to whether it is a "wire and cable" catalyst or not.
3. For each batch of catalyst activated, the owner or operator shall record the type of catalyst and the emission point it is vented through.

Authority for Requirement: Iowa DNR Construction Permits 99-A-422, 90-A-406-S4 and 01-A-585

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Activator-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate (scfm)
HD141-P	HD141-U	99-A-422	61.8	N/A	34.375	1,202	2,300
HD142-P	HD141-U	90-A-406-S4	30	horizontal or obstructed vertical	3	100	250
HD143-P	HD141-U	01-A-585	29	horizontal or obstructed vertical	4	100	250

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Activator-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility O&M plan is required for filter HD143CE1.

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

III. C. Low Density Polyethylene Production Lines

Emission Point ID Numbers: LD001-P through LD004-P

Associated Equipment

Table VA Tanks

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (gallons)
LD001-P	LD001-U	F-2134A VA Tank	Vinyl Acetate	25,444
LD002-P	LD002-U	F-2134B VA Tank	Vinyl Acetate	25,444
LD003-P	LD003-U	F-2126 VA Tank	Vinyl Acetate	37,800
LD004-P	LD004-U	F-2148 VA Tank	Vinyl Acetate	39,677

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD005E-P, LD005W-P, LD006N-P, LD006S-P, LD006W-P, LD007N-P, LD007S-P, LD007W-P, LD008E-P, LD008S-P and LD008W-P

Associated Equipment

Table Reactor-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
LD005E-P	LD005-U	D-0201 LD-1 Reactor (Depressure Emissions)	Ethylene	2,510 lbs per purge 625 lbs per depressure
LD005W-P	LD005-U	D-0201 LD-1 Reactor (Rupture Disc Emissions)	Ethylene	1,377 lbs per release
LD006N-P	LD006-U	D-0702A LD-2A Reactor (North Rupture Disc Emissions)	Ethylene	375.5 lbs per release
LD006S-P	LD006-U	D-0702A LD-2A Reactor (South Rupture Disc Emissions)	Ethylene	375.5 lbs per release
LD006W-P	LD006-U	D-0702A LD-2A Reactor (Depressure Emissions)	Ethylene	1,829 lbs per purge 27 lbs per depressure
LD007N-P	LD007-U	D-0702B LD-2B Reactor (North Rupture Disc Emissions)	Ethylene	375.5 lbs per release
LD007S-P	LD007-U	D-0702B LD-2B Reactor (South Rupture Disc Emissions)	Ethylene	375.5 lbs per release
LD007W-P	LD007-U	D-0702B LD-2B Reactor (Depressure Emissions)	Ethylene	1,829 lbs per purge 27 lbs per depressure
LD008E-P	LD008-U	D-0801 LD-3 Reactor (East Rupture Disc Emissions)	Ethylene	807 lbs per release
LD008S-P	LD008-U	D-0801 LD-3 Reactor (Depressure Emissions)	Ethylene	3,752 lbs per purge 57 lbs per depressure
LD008W-P	LD008-U	D-0801 LD-3 Reactor (West Rupture Disc Emissions)	Ethylene	807 lbs per release

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Reactor-2

EP	EU	PM	VOC	Iowa DNR Construction Permit #
LD005E-P	LD005-U	N/A	3.77 tpy	97-A-807
LD005W-P	LD005-U	0.03 tpy	0.7 tpy	97-A-808
LD008E-P	LD008-U	47.5 lb/decomp	N/A	97-A-647
LD008S-P	LD008-U	N/A	N/A	97-A-648
LD008W-P	LD008-U	47.5 lb/decomp	N/A	97-A-649

Table Reactor-3

Pollutant	Emission Limit(s)	Authority for Requirement
PM	0.03 tpy 47.5 lb/decomp	Iowa DNR Construction Permits Referenced in Table Reactor-2
VOC	3.77 tpy 0.7 tpy	Iowa DNR Construction Permits Referenced in Table Reactor-2

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operation Limits:

1. Nitrogen shall be used to purge unit EU LD008-U (EP LD008S-P).

Authority for Requirement: Iowa DNR Construction Permit 97-A-648

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

1. Calculate the VOC emissions on a 12-month basis rolled monthly from emission points LD005E-P and LD005W-P to show compliance with the annual VOC limits.
2. Calculate the PM emission on a 12-month basis rolled monthly from emission point LD005W-P to show compliance with the annual PM limit.
3. Calculate the PM emissions for each decompression from emission points LD008E-P and LD008W-P to show compliance with the PM limits per decompression.

Authority for Requirement: 567 IAC 22.108(4)

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Reactor-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate (scfm)
LD005E-P	LD005-U	97-A-807	70	N/A	4	Variable	N/A
LD005W-P	LD005-U	97-A-808	75	N/A	24	-10 °F	63.6 acfm
LD008E-P	LD008-U	97-A-647	93	N/A	30	-10 °F	63.6 acfm
LD008S-P	LD008-U	97-A-648	100	N/A	16	Variable	N/A
LD008W-P	LD008-U	97-A-649	93	N/A	30	-10 °F	63.6 acfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Reactor-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD009-P through LD013-P

Associated Equipment

Table VA Tanks

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (gallons)
LD009-P	LD009-U	F-0712A VA Tower Product Rundown Tank	Vinyl Acetate	2,800
LD010-P	LD010-U	F-0712B VA Tower Product Rundown Tank	Vinyl Acetate	2,800
LD011-P	LD011-U	F-0711 VA Tower Bottoms Rundown Tank	Vinyl Acetate	10,000
LD012-P	LD012-U	F-0739 VA Tower Feed Tank	Vinyl Acetate	7,100
LD013-P	LD013-U	F-0751 VA Storage Tank	Vinyl Acetate	6,350

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

**Emission Point ID Numbers: LD014-P, LD015-P, LD016-P, LD017A-P,
LD017B-P, LD018A-P, LD018B-P and LD019-P**

Associated Equipment

Table Dryer-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
LD014-P	LD014-U	L-0207A LD-1 "A" Spin Dryer	Polyethylene Pellets	12,800
LD015-P	LD015-U	L-0207B LD-1 "B" Spin Dryer	Polyethylene Pellets	12,800
LD016-P	LD016-U	L-0210 LD-1 "C" Spin Dryer	Polyethylene Pellets	12,800
LD017A-P	LD017A-U	LD-2A Dewatering Bin	Polyethylene Pellets	9,000
LD017B-P	LD017B-U	L-0738A LD-2A Spin Dryer	Polyethylene Pellets	9,000
LD018A-P	LD018A-U	LD-2B Dewatering Bin	Polyethylene Pellets	9,000
LD018B-P	LD018B-U	L-0738B LD-2B Spin Dryer	Polyethylene Pellets	9,000
LD019-P	LD019-U	L-0838 LD-3 Dewatering Bin & Spin Dryer	Polyethylene Pellets	20,600

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Dryer-2

EP	EU	Opacity	PM	PM ₁₀	VOC	Iowa DNR Construction Permit #
LD014-P	LD014-U	40%	4.80 tpy	0.30 tpy	0.60 tpy	97-A-809
LD015-P	LD015-U	40%	4.80 tpy	0.30 tpy	0.60 tpy	97-A-810
LD016-P	LD016-U	40%	4.80 tpy	0.30 tpy	0.60 tpy	97-A-811
LD017A-P	LD017A-U	40%	11.2 lb/hr	N/A	0.30 lb/hr 1.30 tpy	94-A-137
LD017B-P	LD017B-U	40%	11.2 lb/hr	N/A	0.10 lb/hr 0.44 tpy	94-A-138
LD018A-P	LD018A-U	40%	11.2 lb/hr	N/A	0.30 lb/hr 1.30 tpy	94-A-111
LD018B-P	LD018B-U	40%	11.2 lb/hr	N/A	0.10 lb/hr 0.44 tpy	94-A-112
LD019-P	LD019-U	40%	1.47 lb/hr	0.10 lb/hr	N/A	97-A-650-S1

Table Dryer-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	4.80 tpy 1.47 lb/hr	Iowa DNR Construction Permits Referenced in Table Dryer-2.
PM	11.2 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Dryer-1 for each corresponding unit.
PM ₁₀	0.30 tpy 0.10 lb/hr	Iowa DNR Construction Permits Referenced in Table Dryer-2.
VOC	0.10 lb/hr 0.30 lb/hr 0.44 tpy 0.60 tpy 1.30 tpy	Iowa DNR Construction Permits Referenced in Table Dryer-2.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Dryer-4

			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
LD014-P	LD014-U	97-A-809	25	N/A	8" × 10"	83 °F	200 acfm
LD015-P	LD015-U	97-A-810	25	N/A	8" × 10"	83 °F	200 acfm
LD016-P	LD016-U	97-A-811	25	N/A	14" × 20"	83 °F	200 acfm
LD017A-P	LD017A-U	94-A-137	32	N/A	7"	85 °F	250 cfm
LD017B-P	LD017B-U	94-A-138	32	N/A	12"	83 °F	242 cfm
LD018A-P	LD018A-U	94-A-111	32	N/A	7"	85 °F	250 cfm
LD018B-P	LD018B-U	94-A-112	32	N/A	12"	83 °F	242 cfm
LD019-P	LD019-U	97-A-650-S1	45	N/A	10"	131 °F	798 acfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Dryer-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Note: The stack tests conducted on Emission Point – LD019-P on June 9, 2006 fulfill the testing requirements and demonstrates compliance with the PM limit.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD020-P through LD040-P

Associated Equipment

Table Blender-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
LD020-P	LD020-U	F-0451A LD-1 Rundown Blender	Polyethylene Pellets	38,400
LD021-P	LD021-U	F-0451B LD-1 Rundown Blender	Polyethylene Pellets	38,400
LD022-P	LD022-U	F-0451C LD-1 Rundown Blender	Polyethylene Pellets	38,400
LD023-P	LD023-U	F-0451D LD-1 Rundown Blender	Polyethylene Pellets	38,400
LD024-P	LD024-U	F-0451E LD-1 Rundown Blender	Polyethylene Pellets	38,400
LD025-P	LD025-U	F-0451F LD-1 Rundown Blender	Polyethylene Pellets	38,400
LD026-P	LD026-U	F-0457A LD-2B Rundown Blender	Polyethylene Pellets	9,000
LD027-P	LD027-U	F-0457B LD-2A Rundown Blender	Polyethylene Pellets	9,000
LD028-P	LD028-U	F-0457C LD-2A Rundown Blender	Polyethylene Pellets	9,000
LD029-P	LD029-U	F-0457D LD-2A Rundown Blender	Polyethylene Pellets	9,000
LD030-P	LD030-U	F-0457E LD-2B Rundown Blender	Polyethylene Pellets	9,000
LD031-P	LD031-U	F-0457F LD-2B Rundown Blender	Polyethylene Pellets	9,000
LD032-P	LD032-U	F-0457G LD-2 Spare Blender	Polyethylene Pellets	9,000
LD033-P	LD033-U	F-0457H LD-2 Spare Blender	Polyethylene Pellets	9,000
LD034-P	LD034-U	F-0457J LD-2 Spare Blender	Polyethylene Pellets	9,000
LD035-P	LD035-U	F-0458A E Line Rundown Blender	Polyethylene Pellets	7,000
LD036-P	LD036-U	F-0458B E Line Rundown Blender	Polyethylene Pellets	7,000
LD037-P	LD037-U	F-0458C E Line Rundown Blender	Polyethylene Pellets	7,000
LD038-P	LD038-U	F-0458D D Line Rundown Blender	Polyethylene Pellets	7,000
LD039-P	LD039-U	F-0458E D Line Rundown Blender	Polyethylene Pellets	7,000
LD040-P	LD040-U	F-0458F D Line Rundown Blender	Polyethylene Pellets	7,000

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Blender-2

EP	EU	Opacity	PM	PM ₁₀	VOC	Iowa DNR Construction Permit #
LD020-P	LD020-U	40%	3.6 tpy	0.3 tpy	21.9 tpy	97-A-812
LD021-P	LD021-U	40%	3.6 tpy	0.3 tpy	21.9 tpy	97-A-813
LD022-P	LD022-U	40%	3.6 tpy	0.3 tpy	21.9 tpy	97-A-814
LD023-P	LD023-U	40%	3.6 tpy	0.3 tpy	21.9 tpy	97-A-815
LD024-P	LD024-U	40%	3.6 tpy	0.3 tpy	21.9 tpy	97-A-816
LD025-P	LD025-U	40%	3.6 tpy	0.3 tpy	21.9 tpy	97-A-817
LD026-P	LD026-U	40%	11.2 lb/hr	N/A	N/A	N/A
LD027-P	LD027-U	40%	11.2 lb/hr	N/A	N/A	N/A
LD028-P	LD028-U	40%	11.2 lb/hr	N/A	N/A	N/A
LD029-P	LD029-U	40%	11.2 lb/hr	N/A	N/A	N/A
LD030-P	LD030-U	40%	11.2 lb/hr	N/A	N/A	N/A
LD031-P	LD031-U	40%	11.2 lb/hr	N/A	N/A	N/A
LD032-P	LD032-U	40%	11.2 lb/hr	N/A	N/A	N/A
LD033-P	LD033-U	40%	11.2 lb/hr	N/A	N/A	N/A
LD034-P	LD034-U	40%	11.2 lb/hr	N/A	N/A	N/A
LD035-P	LD035-U	40%	9.49 lb/hr	N/A	N/A	N/A
LD036-P	LD036-U	40%	9.49 lb/hr	N/A	N/A	N/A
LD037-P	LD037-U	40%	9.49 lb/hr	N/A	N/A	N/A
LD038-P	LD038-U	40%	9.49 lb/hr	N/A	N/A	N/A
LD039-P	LD039-U	40%	9.49 lb/hr	N/A	N/A	N/A
LD040-P	LD040-U	40%	9.49 lb/hr	N/A	N/A	N/A

Table Blender-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	3.6 tpy	Iowa DNR Construction Permits Referenced in Table Blender-2
PM	11.2 & 9.49 lb/hr	567 IAC 23.3(2)"a"(2) and based on the rated capacity in Table Blender-1 for each corresponding unit.
PM ₁₀	0.3 tpy	Iowa DNR Construction Permits Referenced in Table Blender-2
VOC	21.9 tpy	Iowa DNR Construction Permits Referenced in Table Blender-2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Blender-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches)	Exhaust Temp. (°F)	Exhaust Flowrate
LD020-P	LD020-U	97-A-812	85'	N/A	10" × 16"	115 °F	3,000 acfm
LD021-P	LD021-U	97-A-813	85'	N/A	10" × 16"	115 °F	3,000 acfm
LD022-P	LD022-U	97-A-814	85'	N/A	10" × 16"	115 °F	3,000 acfm
LD023-P	LD023-U	97-A-815	85'	N/A	10" × 16"	115 °F	3,000 acfm
LD024-P	LD024-U	97-A-816	85'	N/A	10" × 16"	115 °F	3,000 acfm
LD025-P	LD025-U	97-A-817	85'	N/A	10" × 16"	115 °F	3,000 acfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Blender-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD041-P through LD044-P

Associated Equipment

Table Bin-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
LD041-P	LD041-U	F-0459A LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD042-P	LD042-U	F-0459B LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD043-P	LD043-U	F-0459C LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD044-P	LD044-U	F-0459D LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Bin-2

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
LD041-P	LD041-U	40%	0.022 gr/scf	97-A-685
LD042-P	LD042-U	40%	0.022 gr/scf	97-A-686
LD043-P	LD043-U	40%	0.022 gr/scf	97-A-687
LD044-P	LD044-U	40%	0.022 gr/scf	97-A-688

Table Bin-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	0.022 gr/scf	Iowa DNR Construction Permits Referenced in Table Bin-2.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Bin-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
LD041-P	LD041-U	97-A-685	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD042-P	LD042-U	97-A-686	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD043-P	LD043-U	97-A-687	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD044-P	LD044-U	97-A-688	74'	N/A	16" × 16"	110 °F	1,500 acfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Bin-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD045-P through LD050-P

Associated Equipment

Table Blender-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
LD045-P	LD045-U	F-0459E LD-3 Rundown Blender	Polyethylene Pellets	20,600
LD046-P	LD046-U	F-0459F LD-3 Rundown Blender	Polyethylene Pellets	20,600
LD047-P	LD047-U	F-0459G LD-3 Rundown Blender	Polyethylene Pellets	20,600
LD048-P	LD048-U	F-0459H LD-3 Rundown Blender	Polyethylene Pellets	20,600
LD049-P	LD049-U	F-0459J LD-3 Rundown Blender	Polyethylene Pellets	20,600
LD050-P	LD050-U	F-0459K LD-3 Rundown Blender	Polyethylene Pellets	20,600

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Blender-2

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
LD045-P	LD045-U	40%	0.022 gr/scf	97-A-689
LD046-P	LD046-U	40%	0.022 gr/scf	97-A-690
LD047-P	LD047-U	40%	0.022 gr/scf	97-A-691
LD048-P	LD048-U	40%	0.022 gr/scf	97-A-692
LD049-P	LD049-U	40%	0.022 gr/scf	97-A-693
LD050-P	LD050-U	40%	0.022 gr/scf	97-A-694

Table Blender-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	0.022 gr/scf	Iowa DNR Construction Permits Referenced in Table Blender-2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Blender-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
LD045-P	LD045-U	97-A-689	74'	N/A	16" × 16"	110 °F	2,654 acfm
LD046-P	LD046-U	97-A-690	74'	N/A	16" × 16"	110 °F	2,654 acfm
LD047-P	LD047-U	97-A-691	74'	N/A	16" × 16"	110 °F	2,654 acfm
LD048-P	LD048-U	97-A-692	74'	N/A	16" × 16"	110 °F	2,654 acfm
LD049-P	LD049-U	97-A-693	74'	N/A	16" × 16"	110 °F	2,654 acfm
LD050-P	LD050-U	97-A-694	74'	N/A	16" × 16"	110 °F	2,654 acfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Blender-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD051-P through LD082-P

Associated Equipment

Table Bin-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
LD051-P	LD051-U	F-0459L LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD052-P	LD052-U	F-0459M LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD053-P	LD053-U	F-0459N LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD054-P	LD054-U	F-0459P LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD055-P	LD055-U	F-0459Q LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD056-P	LD056-U	F-0459R LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD057-P	LD057-U	F-0459S LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD058-P	LD058-U	F-0459T LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD059-P	LD059-U	F-0459U LD-2/3 Rundown Storage Bin	Polyethylene Pellets	60,000
LD060-P	LD060-U	F-0453A LD-1 Storage Bin	Polyethylene Pellets	60,000
LD061-P	LD061-U	F-0453B LD-1 Storage Bin	Polyethylene Pellets	60,000
LD062-P	LD062-U	F-0453C LD-1 Blending Silo	Polyethylene Pellets	60,000
LD063-P	LD063-U	F-0453D Finishing Storage Bin	Polyethylene Pellets	60,000
LD064-P	LD064-U	F-0453E Finishing Storage Bin	Polyethylene Pellets	60,000
LD065-P	LD065-U	F-0453F LD-1 Storage Bin	Polyethylene Pellets	60,000
LD066-P	LD066-U	F-0453G LD-1 Storage Bin	Polyethylene Pellets	60,000
LD067-P	LD067-U	F-0453H LD-1 Storage Bin	Polyethylene Pellets	60,000
LD068-P	LD068-U	F-0453J Finishing Storage Bin	Polyethylene Pellets	60,000
LD069-P	LD069-U	F-0453K Finishing Storage Bin	Polyethylene Pellets	60,000
LD070-P	LD070-U	F-0453L LD-1 Storage Bin	Polyethylene Pellets	60,000
LD071-P	LD071-U	F-0453M LD-1 Storage Bin	Polyethylene Pellets	60,000
LD072-P	LD072-U	F-0453N LD-1 Storage Bin	Polyethylene Pellets	60,000
LD073-P	LD073-U	F-0453P LD-1 Storage Bin	Polyethylene Pellets	60,000
LD074-P	LD074-U	F-0453Q LD-1 Storage Bin	Polyethylene Pellets	60,000
LD075-P	LD075-U	F-0453R LD-1 Storage Bin	Polyethylene Pellets	60,000
LD076-P	LD076-U	F-0453S LD-1 Storage Bin	Polyethylene Pellets	60,000
LD077-P	LD077-U	F-0454A LD-1 Storage Bin	Polyethylene Pellets	60,000
LD078-P	LD078-U	F-0454B LD-1 Storage Bin	Polyethylene Pellets	60,000
LD079-P	LD079-U	F-0454C LD-1 Storage Bin	Polyethylene Pellets	60,000
LD080-P	LD080-U	F-0454D LD-1 Storage Bin	Polyethylene Pellets	60,000
LD081-P	LD081-U	F-0454E LD-1 Storage Bin	Polyethylene Pellets	60,000
LD082-P	LD082-U	F-0454F LD-1 Storage Bin	Polyethylene Pellets	60,000

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Bin-2

EP	EU	Opacity	PM	PM ₁₀	VOC	Iowa DNR Construction Permit #
LD051-P	LD051-U	40%	0.022 gr/scf	N/A	N/A	97-A-695
LD052-P	LD052-U	40%	0.022 gr/scf	N/A	N/A	97-A-696
LD053-P	LD053-U	40%	0.022 gr/scf	N/A	N/A	97-A-697
LD054-P	LD054-U	40%	0.022 gr/scf	N/A	N/A	97-A-698
LD055-P	LD055-U	40%	0.022 gr/scf	N/A	N/A	97-A-699
LD056-P	LD056-U	40%	0.022 gr/scf	N/A	N/A	97-A-700
LD057-P	LD057-U	40%	0.022 gr/scf	N/A	N/A	97-A-701
LD058-P	LD058-U	40%	0.022 gr/scf	N/A	N/A	97-A-702
LD059-P	LD059-U	40%	0.022 gr/scf	N/A	N/A	97-A-703
LD060-P	LD060-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-818
LD061-P	LD061-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-819
LD062-P	LD062-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-820
LD063-P	LD063-U	40%	40.0 lb/hr	N/A	N/A	N/A
LD064-P	LD064-U	40%	40.0 lb/hr	N/A	N/A	N/A
LD065-P	LD065-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-821
LD066-P	LD066-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-822
LD067-P	LD067-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-823
LD068-P	LD068-U	40%	40.0 lb/hr	N/A	N/A	N/A
LD069-P	LD069-U	40%	40.0 lb/hr	N/A	N/A	N/A
LD070-P	LD070-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-824
LD071-P	LD071-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-825
LD072-P	LD072-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-826
LD073-P	LD073-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-827
LD074-P	LD074-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-828
LD075-P	LD075-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-829
LD076-P	LD076-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-830
LD077-P	LD077-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-831
LD078-P	LD078-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-832
LD079-P	LD079-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-833
LD080-P	LD080-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-834
LD081-P	LD081-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-835
LD082-P	LD082-U	40%	0.7 tpy	0.1 tpy	0.1 tpy	97-A-836

Table Bin-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d
PM	40.0 lb/hr	567 IAC 23.3(2)"a"(2) and based on rated capacity in table Bin-1 for each corresponding emission unit.
PM	0.022 gr/dscf 0.7 tpy	Iowa DNR Construction Permits Referenced in Table Bin-2
PM ₁₀	0.1 tpy	Iowa DNR Construction Permits Referenced in Table Bin-2
VOC	0.1 tpy	Iowa DNR Construction Permits Referenced in Table Bin-2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Bin-4

			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches)	Exhaust Temp. (°F)	Exhaust Flowrate
LD051-P	LD051-U	97-A-695	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD052-P	LD052-U	97-A-696	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD053-P	LD053-U	97-A-697	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD054-P	LD054-U	97-A-698	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD055-P	LD055-U	97-A-699	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD056-P	LD056-U	97-A-700	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD057-P	LD057-U	97-A-701	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD058-P	LD058-U	97-A-702	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD059-P	LD059-U	97-A-703	74'	N/A	16" × 16"	110 °F	1,500 acfm
LD060-P	LD060-U	97-A-818	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD061-P	LD061-U	97-A-819	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD062-P	LD062-U	97-A-820	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD065-P	LD065-U	97-A-821	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD066-P	LD066-U	97-A-822	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD067-P	LD067-U	97-A-823	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD070-P	LD070-U	97-A-824	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD071-P	LD071-U	97-A-825	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD072-P	LD072-U	97-A-826	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD073-P	LD073-U	97-A-827	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD074-P	LD074-U	97-A-828	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD075-P	LD075-U	97-A-829	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD076-P	LD076-U	97-A-830	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD077-P	LD077-U	97-A-831	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD078-P	LD078-U	97-A-832	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD079-P	LD079-U	97-A-833	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD080-P	LD080-U	97-A-834	75'	N/A	16" × 16"	110 °F	1,500 acfm

Table Bin-4 (Continued)

			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches)	Exhaust Temp. (°F)	Exhaust Flowrate
LD081-P	LD081-U	97-A-835	75'	N/A	16" × 16"	110 °F	1,500 acfm
LD082-P	LD082-U	97-A-836	75'	N/A	16" × 16"	110 °F	1,500 acfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Bin-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD083-P (Fugitive)

Associated Equipment

Associated Emission Unit ID Number: LD083-U

Emission Unit vented through this Emission Point: LD083-U

Emission Unit Description: Low Density Unit Fugitives

Raw Material/Fuel: Ethylene

Rated Capacity: 8760 hr/yr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD084-P through LD095-P

Associated Equipment

Table Bin-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
LD084-P	LD084-U	F-0452A LD-1 Quad Storage Bin	Polyethylene Pellets	60,000
LD085-P	LD085-U	F-0452B LD-1 Quad Storage Bin	Polyethylene Pellets	60,000
LD086-P	LD086-U	F-0452C LD-1 Quad Storage Bin	Polyethylene Pellets	60,000
LD087-P	LD087-U	F-0452D LD-1 Quad Storage Bin	Polyethylene Pellets	60,000
LD088-P	LD088-U	F-0452E LD-1 Quad Storage Bin	Polyethylene Pellets	60,000
LD089-P	LD089-U	F-0452F LD-1 Quad Storage Bin	Polyethylene Pellets	60,000
LD090-P	LD090-U	F-0452G LD-1 Quad Storage Bin	Polyethylene Pellets	60,000
LD091-P	LD091-U	F-0452H LD-1 Quad Storage Bin	Polyethylene Pellets	60,000
LD092-P	LD092-U	F-0452J LD-2/3 Quad Storage Bin	Polyethylene Pellets	60,000
LD093-P	LD093-U	F-0452K LD-2/3 Quad Storage Bin	Polyethylene Pellets	60,000
LD094-P	LD094-U	F-0452L LD-2/3 Quad Storage Bin	Polyethylene Pellets	60,000
LD095-P	LD095-U	F-0452M LD-2/3 Quad Storage Bin	Polyethylene Pellets	60,000

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Bin-2

EP	EU	Opacity	PM	PM ₁₀	VOC	Iowa DNR Construction Permit #
LD084-P	LD084-U	40%	0.2 tpy	0.1 tpy	0.1 tpy	97-A-837
LD085-P	LD085-U	40%	0.2 tpy	0.1 tpy	0.1 tpy	97-A-838
LD086-P	LD086-U	40%	0.2 tpy	0.1 tpy	0.1 tpy	97-A-839
LD087-P	LD087-U	40%	0.2 tpy	0.1 tpy	0.1 tpy	97-A-840
LD088-P	LD088-U	40%	0.2 tpy	0.1 tpy	0.1 tpy	97-A-841
LD089-P	LD089-U	40%	0.2 tpy	0.1 tpy	0.1 tpy	97-A-842
LD090-P	LD090-U	40%	0.2 tpy	0.1 tpy	0.1 tpy	97-A-843
LD091-P	LD091-U	40%	0.2 tpy	0.1 tpy	0.1 tpy	97-A-844
LD092-P	LD092-U	40%	0.022 gr/scf	N/A	N/A	97-A-651
LD093-P	LD093-U	40%	0.022 gr/scf	N/A	N/A	97-A-652
LD094-P	LD094-U	40%	0.022 gr/scf	N/A	N/A	97-A-653
LD095-P	LD095-U	40%	0.022 gr/scf	N/A	N/A	97-A-654

Table Bin-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d
PM	0.022 gr/dscf 0.2 tpy	Iowa DNR Construction Permits Referenced in Table Bin-2
PM ₁₀	0.1 tpy	Iowa DNR Construction Permits Referenced in Table Bin-2
VOC	0.1 tpy	Iowa DNR Construction Permits Referenced in Table Bin-2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Bin-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches)	Exhaust Temp. (°F)	Exhaust Flowrate
LD084-P	LD084-U	97-A-837	75'	N/A	16" × 16"	110 °F	500 acfm
LD085-P	LD085-U	97-A-838	75'	N/A	16" × 16"	110 °F	500 acfm
LD086-P	LD086-U	97-A-839	75'	N/A	16" × 16"	110 °F	500 acfm
LD087-P	LD087-U	97-A-840	75'	N/A	16" × 16"	110 °F	500 acfm
LD088-P	LD088-U	97-A-841	75'	N/A	16" × 16"	110 °F	500 acfm
LD089-P	LD089-U	97-A-842	75'	N/A	16" × 16"	110 °F	500 acfm
LD090-P	LD090-U	97-A-843	75'	N/A	16" × 16"	110 °F	500 acfm
LD091-P	LD091-U	97-A-844	75'	N/A	16" × 16"	110 °F	500 acfm
LD092-P	LD092-U	97-A-651	74'	N/A	16" × 16"	110 °F	500 acfm
LD093-P	LD093-U	97-A-652	74'	N/A	16" × 16"	110 °F	500 acfm
LD094-P	LD094-U	97-A-653	74'	N/A	16" × 16"	110 °F	500 acfm
LD095-P	LD095-U	97-A-654	74'	N/A	16" × 16"	110 °F	500 acfm

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Bin-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD096-P through LD109-P

Associated Equipment

Table Compressor-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
LD096-P	LD096A-U	J-0201A LD-1 "A" Make Up Compressor	Ethylene	21,500 lb/hr
	LD096B-U	J-0202A LD-1 "A" Purge Compressor	Ethylene	4,500 lb/hr
LD097-P	LD097A-U	J-0201B LD-1 "B" Make Up Compressor	Ethylene	21,500 lb/hr
	LD097B-U	J-0202B LD-1 "B" Purge Compressor	Ethylene	4,500 lb/hr
LD098-P	LD098-U	J-0202C LD-1 Purge Booster Compressor	Ethylene	7350 lb/hr
LD099-P	LD099-U	J-0203A LD-1 "A" Recycle Compressor	Ethylene	60,000 lb/hr
LD100-P	LD100-U	J-0203B LD-1 "B" Recycle Compressor	Ethylene	60,000 lb/hr
LD101-P	LD101-U	J-0204A LD-1 "A" Hyper Compressor	Ethylene	209,623 lb/hr
LD102-P	LD102-U	J-0204B LD-1 "B" Hyper Compressor	Ethylene	209,623 lb/hr
LD103-P	LD103-U	J-0223 LD-1 Recycle Compressor	Ethylene	500 lb/hr
LD104-P	LD104-U	J-0224 LD-1 Hyper Compressor	Ethylene	60,000 lb/hr
LD105-P	LD105A-U	J-0701A LD-2A Primary/Flash Gas Compressor	Ethylene	79.1 gpm
	LD105B-U	F-0701A LD-2A Make Up Gas Suction Drum	Ethylene	79.1 gpm
	LD105C-U	F-0705A LD-2A Purge Compressor Suction Drum	Ethylene	142.5 ft ³
LD106-P	LD106A-U	J-0701B LD-2B Primary/Flash Gas Compressor	Ethylene	79.1 gpm
	LD106B-U	F-0701B LD-2B Make Up Gas Suction Drum	Ethylene	79.1 gpm
	LD106C-U	F-0705B LD-2B Purge compressor Suction Drum	Ethylene	142.5 ft ³
LD107-P	LD107-U	J-0702A LD-2A Secondary Compressor	Ethylene	44,000 lb/hr
LD108-P	LD108-U	J-0702B LD-2B Secondary Compressor	Ethylene	44,000 lb/hr
LD109-P	LD109A-U	J-0801 LD-3 Primary/Flash Gas Compressor	Ethylene	30,000 lb/hr
	LD109B-U	J-0802 LD-3 Secondary Compressor	Ethylene	30,000 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Compressor-2

EP	EU	VOC	Iowa DNR Construction Permit #
LD096-P	LD096A-U	0.1 tpy	97-A-845
	LD096B-U	0.1 tpy	97-A-846
LD097-P	LD097A-U	0.1 tpy	97-A-847
	LD097B-U	0.1 tpy	97-A-848
LD098-P	LD098-U	0.2 tpy	97-A-849
LD099-P	LD099-U	0.1 tpy	97-A-850
LD100-P	LD100-U	0.1 tpy	97-A-851
LD101-P	LD101-U	3.4 tpy	97-A-852
LD102-P	LD102-U	3.4 tpy	97-A-853
LD103-P	LD103-U	0.1 tpy	97-A-854
LD104-P	LD104-U	3.4 tpy	97-A-855
LD105-P	LD105A-U	N/A	N/A
	LD105B-U	N/A	N/A
	LD105C-U	N/A	N/A
LD106-P	LD106A-U	N/A	N/A
	LD106B-U	N/A	N/A
	LD106C-U	N/A	N/A
LD107-P	LD107-U	N/A	N/A
LD108-P	LD108-U	N/A	N/A
LD109-P	LD109A-U	N/A	97-A-655
	LD109B-U		

Table Compressor-3

Pollutant	Emission Limit(s)	Authority for Requirement
VOC	0.1 tpy 0.2 tpy 3.4 tpy	Iowa DNR Construction Permits Referenced in Table Compressor-2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Compressor-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
LD096-P	LD096A-U	97-A-845	40'	N/A	3"	Variable	Variable
	LD096B-U	97-A-846	40'	N/A	3"	Variable	Variable
LD097-P	LD097A-U	97-A-847	40'	N/A	3"	Variable	Variable
	LD097B-U	97-A-848	40'	N/A	3"	Variable	Variable
LD098-P	LD098-U	97-A-849	40'	N/A	6"	Variable	Variable
LD099-P	LD099-U	97-A-850	45'	N/A	6"	Variable	Variable
LD100-P	LD100-U	97-A-851	32'	N/A	1.5"	Variable	Variable
LD101-P	LD101-U	97-A-852	50'	N/A	1.5"	Variable	Variable
LD102-P	LD102-U	97-A-853	50'	N/A	1.5"	Variable	Variable
LD103-P	LD103-U	97-A-854	45'	N/A	1.5"	Variable	Variable
LD104-P	LD104-U	97-A-855	50'	N/A	1.5"	Variable	Variable
LD109-P	LD109A-U	97-A-655	123'	N/A	12"	Variable	Variable
	LD109B-U						

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Compressor-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD110-P through LD113-P

Associated Equipment

Table Wax-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (Potential Emission Rate, lb/hr)
LD110-P	LD110-U	LD-1 Wax Works	Ethylene	5,600
LD111-P	LD111-U	LD-2A Wax Works	Ethylene	4,360
LD112-P	LD112-U	LD-2B Wax Works	Ethylene	4,360
LD113-P	LD113-U	LD 3 Wax Works	Ethylene	40,300

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Wax-2

EP	EU	VOC	Iowa DNR Construction Permit #
LD110-P	LD110-U	5.7 tpy	97-A-856
LD111-P	LD111-U	N/A	N/A
LD112-P	LD112-U	N/A	N/A
LD113-P	LD113-U	N/A	97-A-656

Table Wax-3

Pollutant	Emission Limit(s)	Authority for Requirement
VOC	5.7 tpy	Iowa DNR Construction Permits Referenced in Table Wax-2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Wax-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
LD110-P	LD110-U	97-A-856	65'	N/A	2"	Variable	Variable
LD113-P	LD113-U	97-A-656	35'	N/A	1.5"	Variable	Variable

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Wax-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD114-P, LD115-P, LD115A-P, LD116-P, LD116A-P, LD117-P, LD117A-P, LD118-P, LD118A-P, LD119-P, LD119A-P, LD120-P, LD120A-P, LD121-P and LD121A-P

Associated Equipment

Table Separator-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
LD114-P	LD114A-U	F-0201 LD-1 Make-Up Gas Suction Drum	Ethylene	3.15 ft ³
	LD114B-U	F-0205 LD-1 Purge Compressor Suction Drum	Ethylene	4500 lb/hr
LD115-P	LD115-U	F-0220 LD-1 High Pressure Separator	Ethylene	97,513 lb/hr
LD115A-P		F-0220 LD-1 High Pressure Separator – RV		
LD116-P	LD116-U	F-0703A LD-2A High Pressure Separator	Ethylene	55.6 ft ³
LD116A-P		F-0703A LD-2A High Pressure Separator – RV		
LD117-P	LD117-U	F-0703B LD-2B High Pressure Separator	Ethylene	55.6 ft ³
LD117A-P		F-0703B LD-2B High Pressure Separator – RV		
LD118-P	LD118-U	F-0704A LD-2A Low Pressure Separator	Ethylene	88 ft ³
LD118A-P		F-0704A LD-2A Low Pressure Separator – RV		
LD119-P	LD119-U	F-0704B LD-2B Low Pressure Separator	Ethylene	88 ft ³
LD119A-P		F-0704B LD-2B Low Pressure Separator – RV		
LD120-P	LD120-U	F-0803 LD-3 High Pressure Separator	Ethylene	188.5 ft ³
LD120A-P		F-0803 LD-3 High Pressure Separator – RV		
LD121-P	LD121-U	F-0804 LD-3 Low Pressure Separator	Ethylene	707 ft ³
LD121A-P		F-0804 LD-3 Low Pressure Separator – RV		

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Separator-2

EP	EU	VOC	Iowa DNR Construction Permit #
LD114-P	LD114A-U	0.1 tpy	97-A-857
LD114-P	LD114B-U	0.1 tpy	97-A-858
LD115-P	LD115-U	1.8 tpy	97-A-859
LD115A-P	LD115-U		97-A-859
LD116-P	LD116-U	N/A	N/A
LD116A-P	LD116-U	N/A	N/A
LD117-P	LD117-U	N/A	N/A
LD117A-P	LD117-U	N/A	N/A
LD118-P	LD118-U	N/A	N/A
LD118A-P	LD118-U	N/A	N/A
LD119-P	LD119-U	N/A	N/A
LD119A-P	LD119-U	N/A	N/A
LD120-P	LD120-U	N/A	97-A-657
LD120A-P	LD120-U	N/A	97-A-657
LD121-P	LD121-U	N/A	97-A-658
LD121A-P	LD121-U	N/A	97-A-658

Table Separator-3

Pollutant	Emission Limit(s)	Authority for Requirement
VOC	0.1 tpy	Iowa DNR Construction Permits Referenced in Table Separator-2.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Separator-4			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
LD114-P	LD114A-U	97-A-857	40'	N/A	4"	Variable	Variable
LD114-P	LD114B-U	97-A-858	40'	N/A	4"	Variable	Variable
LD115-P	LD115-U	97-A-859	65'	N/A	2"	Variable	Variable
LD115A-P	LD115-U	97-A-859	N/A	N/A	N/A	N/A	N/A
LD120-P	LD120-U	97-A-657	93'	N/A	10"	Variable	Variable
LD120A-P	LD120-U	97-A-657	N/A	N/A	N/A	N/A	N/A
LD121-P	LD121-U	97-A-658	1'	N/A	3"	Variable	Variable
LD121A-P	LD121-U	97-A-658	N/A	N/A	N/A	N/A	N/A

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Separator-4

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: LD122-P

Associated Equipment

Associated Emission Unit ID Number: LD122-U

Emission Unit vented through this Emission Point: LD122-U

Emission Unit Description: E-0701 VA Recovery Tower

Raw Material/Fuel: Vinyl Acetate

Rated Capacity: 204 gal/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD123-P, LD124-P, LD124A-P, LD125-P, LD125A-P, LD126-P and LD126A-P

Associated Equipment

Table Pumps and Separators

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity
LD123-P	LD123A-U	J-0720A1 LD-2 Modifier Injection Pump	Propylene, propane	120 gal/hr
	LD123B-U	J-0720A2 LD-2 Modifier Injection Pump	Propylene, propane	120 gal/hr
	LD123C-U	J-0720B1 LD-2 Modifier Injection Pump	Propylene, propane	120 gal/hr
	LD123D-U	J-0720B2 LD-2 Modifier Injection Pump	Propylene, propane	120 gal/hr
	LD123E-U	J-0720C LD-2 Spare Modifier Injection Pump	Vinyl Acetate, NBA, MA	120 gal/hr
	LD123F-U	J-0728A LD-2 VA Modifier Injection Pump	Vinyl Acetate	300 gal/hr
	LD123G-U	J-0728B LD-2 VA Modifier Injection Pump	Vinyl Acetate	300 gal/hr
LD124-P LD124A-P	LD124-U	F-0231A LD-1 Low Pressure Separator	Ethylene	32,500 lb/hr
LD125-P LD125A-P	LD125-U	F-0231B LD-1 Low Pressure Separator	Ethylene	32,500 lb/hr
LD126-P LD126A-P	LD126-U	F-0232 LD-1 Low Pressure Separator	Ethylene	32,500 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: LD127-P and LD128-P

Associated Equipment

Table Analyzer-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr, leaking rate)	CE ID & Description
LD127-P	LD127-U	H207 Analyzer House, Analyzer 1	Ethylene	0.005	LD127CE1 Combuster
			Ethylene	0.005	LD127CE2 Combuster
		H207 Analyzer House, Analyzer 2	Ethylene	0.005	LD127CE3 Combuster
		H207 Analyzer House, Analyzer 3	Ethylene	0.005	LD127CE4 Combuster
LD128-P	LD128-U	H706 Analyzer House, Analyzer 1	Ethylene	0.005	LD128CE1 Combuster
		H706 Analyzer House, Analyzer 2	Ethylene	0.005	LD128CE2 Combuster
		H706 Analyzer House, Analyzer 3	Ethylene	0.005	LD128CE3 Combuster

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

There are no emission limits at this time.

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Table Analyzer-2			Stack Characteristics				
EP	EU	Construction Permit #	Stack Height (feet, above ground)	Discharge Style	Stack Opening (inches, dia.)	Exhaust Temp. (°F)	Exhaust Flowrate
LD127-P ⁽¹⁾	LD127-U	03-A-405	8	Vertical, Unobstructed	3	100	1 liter/min
		03-A-406					1 liter/min
		03-A-407					1 liter/min
		03-A-408					1 liter/min
LD128-P ⁽²⁾	LD128-U	03-A-409	8	Vertical, Unobstructed	3	100	1 liter/min
		03-A-410					1 liter/min
		03-A-411					1 liter/min

⁽¹⁾ Construction permits 03-A-405 through 03-A-408 specify that there are four individual stacks. However, there is only one stack LD127-P for this analyzer house. The facility is in the process of modifying these construction permits to reflect the fact that there is only one stack for this analyzer house.

⁽²⁾ Construction permits 03-A-409 through 03-A-411 specify that there are three individual stacks. However, there is only one stack LD128-P for this analyzer house. The facility is in the process of modifying these construction permits to reflect the fact that there is only one stack for this analyzer house.

Authority for Requirement: Iowa DNR Construction Permits Referenced in Table Analyzer-2

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

III. D. Product Packing and Shipping

Emission Point ID Numbers: PP001-P through PP016-P

Associated Equipment

Table Loading-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)	CE ID & Description
PP001-P	PP001-U	L-0520 HDPE Cartoning Elutriator	Polyethylene Pellets	75,000	PP001CE1 Cyclone
PP002-P	PP002-U	L-0570 LDPE Cartoning Elutriator	Polyethylene Pellets	75,000	PP002CE1 Cyclone
PP003-P	PP003-U	L-0522 HDPE Cartoning Scalperator	Polyethylene Pellets	75,000	PP003CE1 Cyclone
PP004-P	PP004-U	L-0572 LDPE Cartoning Scalperator	Polyethylene Pellets	75,000	PP004CE1 Cyclone
PP005-P	PP005-U	L-0501 HDPE Old Hopper Car Elutriator	Polyethylene Pellets	75,000	PP005CE1 Cyclone
PP006-P	PP006-U	L-0551 LDPE Old Hopper Car Elutriator	Polyethylene Pellets	75,000	PP006CE1 Cyclone
PP007-P	PP007-U	L-0597 LDPE Old Hopper Car Scalperator	Polyethylene Pellets	75,000	PP007CE1 Cyclone
PP008-P	PP008-U	L-0503 HDPE Old Hopper Car Scalperator	Polyethylene Pellets	75,000	PP008CE1 Cyclone
PP009-P	PP009-U	L-0593 LDPE Hopper Truck Elutriator	Polyethylene Pellets	75,000	PP009CE1 Cyclone
PP010-P	PP010-U	L-0568 HDPE Hopper Truck Elutriator	Polyethylene Pellets	75,000	PP010CE1 Cyclone
PP011-P	PP011-U	L-0502 HDPE New Hopper Car Elutriator	Polyethylene Pellets	75,000	PP011CE1 Cyclone
PP012-P	PP012-U	L-0509 HDPE New Hopper Car Scalperator	Polyethylene Pellets	75,000	PP012CE1 Cyclone
PP013-P	PP013-U	L-0557 LDPE New Hopper Car Scalperator	Polyethylene Pellets	75,000	PP013CE1 Cyclone
PP014-P	PP014-U	L-0559 LDPE New Hopper Car Elutriator	Polyethylene Pellets	75,000	PP014CE1 Cyclone
PP015-P	PP015-U	L-0594 LDPE Hopper Truck Scalperator	Polyethylene Pellets	75,000	PP015CE1 Cyclone
PP016-P	PP016-U	L-0569 HDPE Hopper Truck Scalperator	Polyethylene Pellets	75,000	PP016CE1 Cyclone

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Loading-2

EP	EU	Opacity	PM	Iowa DNR Construction Permit #
PP001-P	PP001-U	40%	41.9 lb/hr	N/A
PP002-P	PP002-U	40%	41.9 lb/hr	N/A
PP003-P	PP003-U	40%	41.9 lb/hr	N/A
PP004-P	PP004-U	40%	41.9 lb/hr	N/A
PP005-P	PP005-U	40%	41.9 lb/hr	N/A
PP006-P	PP006-U	40%	41.9 lb/hr	N/A
PP007-P	PP007-U	40%	41.9 lb/hr	N/A
PP008-P	PP008-U	40%	41.9 lb/hr	N/A
PP009-P	PP009-U	40%	41.9 lb/hr	N/A
PP010-P	PP010-U	40%	41.9 lb/hr	N/A
PP011-P	PP011-U	40%	41.9 lb/hr	79-A-102
PP012-P	PP012-U	40%	41.9 lb/hr	
PP013-P	PP013-U	40%	41.9 lb/hr	
PP014-P	PP014-U	40%	41.9 lb/hr	
PP015-P	PP015-U	40%	41.9 lb/hr	N/A
PP016-P	PP016-U	40%	41.9 lb/hr	N/A

Table Loading-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	41.9 lb/hr	Iowa DNR construction permit referenced in Table Loading-2, and 567 IAC 23.3(2)"a"(2) based on rated capacity in table Loading-1 for each corresponding emission unit.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant – PM ⁽¹⁾

Stack Test to be Completed by - June 14, 2006

Test Method - Iowa Compliance Sampling Manual Method 5

Authority for Requirement - 567 IAC 22.108(3)

⁽¹⁾ Successfully testing any one of the stacks PP001-P through PP016-P will fulfill the testing requirements for PP001-P through PP016-P.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility O&M plans are required for cyclones PP001CE1, PP002CE1, PP003CE1, PP004CE1, PP005CE1, PP006CE1, PP007CE1, PP008CE1, PP009CE1, PP010CE1, PP011CE1, PP012CE1, PP013CE1, PP014CE1, PP015CE1, and PP016CE1.

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: PP017-P

Associated Equipment

Associated Emission Unit ID Number: PP017-U
Emissions Control Equipment ID Number: PP017CE1
Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: PP017-U
Emission Unit Description: L-0589A LDPE New Hopper Car Deduster through L-0589B
Baghouse
Raw Material/Fuel: Polyethylene Pellets
Rated Capacity: 80,000 lb/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit: 20% ⁽¹⁾

Authority for Requirement: 567 IAC 23.3(2)"d" (Iowa DNR Construction Permit 98-A-599)

⁽¹⁾ If visible emissions are observed other than startup, shutdown, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard.

Pollutant: Particulate Matter

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2)"a" (Iowa DNR Construction Permit 98-A-599)

Pollutant: PM₁₀

Emission Limit(s): 3.29 lb/hr, 14.4 tpy

Authority for Requirement: Iowa DNR Construction Permit 98-A-599

Emission Point Characteristics

This emission point shall conform to the conditions listed below.

Stack Height (ft, from the ground): 19.83 ft

Discharge Style: N/A

Stack Opening (diameter): 16 inches

Exhaust Temperature (°F): 250 °F

Exhaust Flowrate: 6,400 acfm (4777 scfm)

Authority for Requirement: Iowa DNR Construction Permit 98-A-599

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity Monitoring

The facility shall check for visible emissions weekly using EPA Method 22 for a six (6) minute observation period when the emission unit on this emission point is at or near full capacity and record the reading. A written record of the observation and any action resulting from the observation shall be maintained for a minimum of five years. Visible emissions shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required within 24 hours of the initial observation. If an opacity greater than 20% is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation. Unless it is documented that weather conditions prevent visible emission or opacity observation during the entire week, at least one visible emission observation or one Method 9 opacity observation must be performed each calendar week. For the purpose of this permit condition, the week begins on Monday and ends on Sunday. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Stack Testing:

Pollutant – Particulate Matter (PM)

Stack Test to be Completed by - June 14, 2006

Test Method - Iowa Compliance Sampling Manual Method 5

Authority for Requirement - 567 IAC 22.108(3)

Pollutant – PM₁₀

Stack Test to be Completed by - June 14, 2006

Test Method - 40 CFR 51, Appendix M, 201A with 202
or approved alternative test method

Authority for Requirement - 567 IAC 22.108(3)

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six (6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: PP018-P and PP019-P

Associated Equipment

Table Loading-1

EP	EU	EU Description	Raw Material/ Fuel	Rated Capacity (lb/hr)
PP018-P	PP018-U	L-0528 HDPE North Powder Loading Dust Collector	Polyethylene Powder	30,000
PP019-P	PP019-U	L-0529 HDPE South Powder Loading Dust Collector	Polyethylene Powder	30,000

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Table Loading-2

EP	EU	Opacity	PM
PP018-P	PP018-U	40%	25.2 lb/hr
PP019-P	PP019-U	40%	25.2 lb/hr

Table Loading-3

Pollutant	Emission Limit(s)	Authority for Requirement
Opacity	40%	567 IAC 23.3(2)"d"
PM	25.2 lb/hr	567 IAC 23.3(2)"a"(2) and based on rated capacity in table Loading-1 for each corresponding emission unit.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Reporting & Record Keeping:

The following records shall be maintained on-site for five (5) years and available for inspection upon request by representatives of the Department of Natural Resources.

The permittee claims small unit exemption for emission units PP018-U and PP019-U from the requirements of applying for construction permits per 567 IAC 22.1(2)"w". The "exemption justification document" must be maintained to justify the exemption in compliance with 567 IAC 22.1(2)"w"(3)

Authority for Requirement: 567 IAC 22.1(2)"w"(3)

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Compliance Assurance Monitoring (CAM) Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108 (9)"b"*

G2. Permit Expiration

1. Except as provided in 567 IAC 22.104, the expiration of this permit terminates the permittee's right to operate unless a timely and complete application has been submitted for renewal. Any testing required for renewal shall be completed before the application is submitted. *567 IAC 22.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall present or mail the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Urbandale, Iowa 50322, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to EPA Region VII, Attention: Chief of Air Permits, 901 N. 5th St., Kansas City, KS 66101. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the

compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. 567 IAC 22.108 (15)"e"

G5. Semi-Annual Monitoring Report

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. 567 IAC 22.108 (5)

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
 - a. Form 1.0 "Facility Identification";
 - b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
 - c. Form 5.0 "Title V annual emissions summary/fee"; and
 - d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
 - a. Form 1.0 "Facility Identification";
 - b. Form 5.0 "Title V annual emissions summary/fee";
 - c. Part 3 "Application certification."
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:

1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

G8. Duty to Provide Information

The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

G9. General Maintenance and Repair Duties

The owner or operator of any air emission source or control equipment shall:

1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

G10. Recordkeeping Requirements for Compliance Monitoring

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:

- a. The date, place and time of sampling or measurements
- b. The date the analyses were performed.
- c. The company or entity that performed the analyses.
- d. The analytical techniques or methods used.
- e. The results of such analyses; and
- f. The operating conditions as existing at the time of sampling or measurement.
- g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)

2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.

3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:
- a. Comply with all terms and conditions of this permit specific to each alternative scenario.
 - b. Maintain a log at the permitted facility of the scenario under which it is operating.
 - c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

G11. Evidence used in establishing that a violation has or is occurring.

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:
- a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;
 - b. Compliance test methods specified in 567 Chapter 25; or
 - c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.
2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
- a. Any monitoring or testing methods provided in these rules; or
 - b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a

violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Oral Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An oral report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable visible emission standard by more than 10 percent opacity. The oral report may be made in person or by telephone and shall include as a minimum the following:

- i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and expected duration of the excess emission.
- iv. The cause of the excess emission.
- v. The steps being taken to remedy the excess emission.
- vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required oral reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:

- i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and duration of the excess emission.
- iv. The cause of the excess emission.
- v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.

- vi. The steps that were taken to limit the excess emission.
- vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. The facility at the time was being properly operated;
- c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and
- d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. *567 IAC 22.108(16)*

G15. Permit Deviation Reporting Requirements

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

- 1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:
 - a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.

- b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);
- c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);
- d. The changes are not subject to any requirement under Title IV of the Act.
- e. The changes comply with all applicable requirements.
- f. For such a change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:
 - i. A brief description of the change within the permitted facility,
 - ii. The date on which the change will occur,
 - iii. Any change in emission as a result of that change,
 - iv. The pollutants emitted subject to the emissions trade
 - v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.
 - vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and
 - vii. Any permit term or condition no longer applicable as a result of the change.

567 IAC 22.110(1)

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110(2)*

3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110(3)*

4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110(4)*

5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108(11)*

G18. Duty to Modify a Title V Permit

1. Administrative Amendment.

- a. An administrative permit amendment is a permit revision that is required to do any of the following:
 - i. Correct typographical errors
 - ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;

- iii. Require more frequent monitoring or reporting by the permittee; or
 - iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.
 - b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.
 - c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.
2. Minor Permit Modification.
- a. Minor permit modification procedures may be used only for those permit modifications that do any of the following:
 - i. Do not violate any applicable requirements
 - ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit.
 - iii. Do not require or change a case by case determination of an emission limitation or other standard, or increment analysis.
 - iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act.;
 - v. Are not modifications under any provision of Title I of the Act; and
 - vi. Are not required to be processed as significant modification.
 - b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:
 - i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs.
 - ii. The permittee's suggested draft permit
 - iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of a minor permit modification procedures and a request that such procedures be used; and
 - iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).
 - c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify.

However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, existing permit term terms and conditions it seeks to modify may subject the facility to enforcement action.

3. Significant Permit Modification. Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, and those requirements that apply to Title V issuance and renewal. *567 IAC 22.111-567 IAC 22.113* The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 22.105(1)"a"(4)*

G19. Duty to Obtain Construction Permits

Unless exempted under 567 IAC 22.1(2), the permittee must not construct, install, reconstruct, or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, conditional permit, or permit pursuant to 567 IAC 22.8, or permits required pursuant to 567 IAC 22.4 and 567 IAC 22.5. Such permits shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source. *567 IAC 22.1(1)*

G20. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when conducting any renovation or demolition activities at the facility. *567 IAC 23.1(3)"a", and 567 IAC 23.2*

G21. Open Burning

The permittee is prohibited from conducting open burning, except as may be allowed by 567 IAC 23.2. *567 IAC 23.2 except 23.2(3)"h"; 567 IAC 23.2(3)"h" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 22.108(7)*

G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:

- a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.

- b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.
 - c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.
 - d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.
 - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)
 - e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.
3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,
5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

G24. Permit Reopenings

- 1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*
- 2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.

- a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;
 - b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to June 25, 1993.
 - c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*
3. A permit shall be reopened and revised under any of the following circumstances:
- a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to June 25, 1993, provided that the reopening may be stayed pending judicial review of that determination;
 - b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;
 - c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.
 - d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
 - e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*
4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

G25. Permit Shield

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:
 - a. Such applicable requirements are included and are specifically identified in the permit; or
 - b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.
2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.
3. A permit shield shall not alter or affect the following:

- a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;
- b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;
- d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

G26. Severability

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

G27. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

G28. Transferability

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought to determine transferability of the permit. *567 IAC 22.111 (1)"d"*

G29. Disclaimer

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with an applicable requirement. For the department to consider test results a valid demonstration of compliance with applicable rules or a permit condition, such notice shall be given. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. Unless specifically waived by the department's stack test contact, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. The department may accept a testing protocol in lieu of a pretest meeting. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-6001

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.

567 IAC 25.1(7)"a", 567 IAC 25.1(9)

G31. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons.

567 IAC 26.1(1)

G32. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits
EPA Region 7
Air Permits and Compliance Branch
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-5100

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1

909 West Main – Suite 4
Manchester, IA 52057
(563) 927-2640

Field Office 2

2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3

1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4

1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5

401 SW 7th Street, Suite I
Des Moines, IA 50309
(515) 725-0268

Field Office 6

1023 West Madison Street
Washington, Iowa 52353-1623
(319) 653-2135

Polk County Planning & Development

Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health Dept.

Air Pollution Control Division
501 13th St., NW
Cedar Rapids, IA 52405
(319) 892-6000

V. Appendix A

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES Subpart DDD—Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry

(The following selected sections and paragraphs of subpart DDD are listed here for convenience.
Refer to the whole subpart for complete and detailed requirements.)

§ 60.560 Applicability and designation of affected facilities.

(g) Individual vent streams that emit continuous emissions with uncontrolled annual emissions of less than 1.6 Mg/yr (1.76 ton/yr) or with a weight percent TOC of less than 0.10 percent from a new, modified, or reconstructed polypropylene or polyethylene affected facility are exempt from the requirements of §60.562–1(a)(1). If at a later date, an individual stream's uncontrolled annual emissions become 1.6 Mg/yr (1.76 ton/yr) or greater (if the stream was exempted on the basis of the uncontrolled annual emissions exemption) or VOC concentration becomes 0.10 weight percent or higher (if the stream was exempted on the basis of the VOC concentration exemption), then the stream is subject to the requirements of §60.562–1.

§ 60.564 Test methods and procedures.

(d) An owner or operator shall determine compliance with the individual stream exemptions in §60.560(g) and the procedures specified in Table 3 for compliance with §60.562–1(a)(1) as identified in paragraphs (d)(1) and (2) of this section. An owner or operator using the procedures specified in §60.562–1(a)(1) for determining which continuous process emissions are to be controlled may use calculations demonstrated to be sufficiently accurate as to preclude the necessity of actual testing for purposes of calculating the uncontrolled annual emissions and weight percent of TOC. Owners or operators seeking to exempt streams under §60.560(g) must use the appropriate test procedures specified in this section.

(1) The uncontrolled annual emissions of the individual vent stream shall be determined using the following equation:

$$E_{UNC} = K_2 \left(\sum_{j=1}^n C_j M_j \right) Q \times 8,600$$

Where:

E_{UNC} = uncontrolled annual emissions, Mg/yr (ton/yr),

C_j = concentration of sample component j of the gas stream, dry basis, ppmv,

M_j = molecular weight of sample component j of the gas stream, g/g-mole (lb/lb-mole),

Q = flow rate of the gas stream, dscm/hr (dscf/hr),

$K_2 = 4.157 \times 10^{-11}$ [(Mg)(g-mole)]/[(g)(ppm)(dscm)] (metric units),

$= 1.298 \times 10^{-12}$ [(ton)(lb-mole)]/[(lb)(ppm)(dscf)] (English units),

8,600 = operating hours per year

(i) Method 18 shall be used to determine the concentration of each individual organic component (C_j) in the gas stream. Method 1 or 1A, as appropriate, shall be used to determine the sampling site. If the gas stream is controlled in an existing control device, the sampling site shall be before the inlet of the control device and after all product recovery units.

(ii) Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the volumetric flow rate (Q). If necessary, Method 4 shall be used to determine the moisture content. Both determinations shall be compatible with the Method 18 determinations.

(iii) The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15 minute intervals.

(2) The weight percent VOC of the uncontrolled individual vent stream shall be determined using the following equation:

$$\text{weight \% TOC} = \frac{\sum_{j=1}^n C_j M_j}{MW_{\text{gas}} \times 10^6} \times 100$$

where:

C_j = concentration of sample TOC component “j” of the gas stream, dry basis, ppmv.

M_j = Molecular weight of sample TOC component “j” of the gas stream, g/g-mole (lb/lb-mole).

MW_{gas} = Average molecular weight of the entire gas stream, g/g-mole (lb/lb-mole).

(i) Method 18 shall be used to determine the concentration of each individual organic component (C_j) in the gas stream. Method 1 or 1A, as appropriate, shall be used to determine the sampling site. If the gas stream is controlled in an existing control device, the sampling site shall be before the inlet of the control device and after all product recovery units. If necessary, Method 4 shall be used to determine the moisture content. This determination shall be compatible with the Method 18 determinations.

(ii) The average molecular weight of the gas stream shall be determined using methods approved by the Administrator. If the carrier component of the gas stream is nitrogen, then an average molecular weight of 28 g/g-mole (lb/lb-mole) may be used in lieu of testing. If the carrier component of the gas stream is air, then an average molecular weight of 29 g/g-mole (lb/lb-mole) may be used in lieu of testing.

(iii) The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15 minute intervals.

§ 60.565 Reporting and recordkeeping requirements.

(a) Each owner or operator subject to the provisions of this subpart shall keep an up-to-date, readily-accessible record of the following information measured during each performance test, and shall include the following information in the report of the initial performance test in addition to the written results of such performance tests as required under §60.8. Where a control device is used to comply with §60.562–1(a)(1)(i)(D) only, a report containing performance test data need not be submitted, but a report containing the information in §60.565(a)(11) is required. Where a boiler or process heater with a design heat input capacity of 150 million Btu/hour or greater is used to comply with §60.562–1(a), a report containing performance test data need not be submitted, but a report containing the information in §60.565(a)(2)(i) is required. The same information specified in this section shall be submitted in the reports of all subsequently required performance tests where either the emission control efficiency of a combustion device or the outlet concentration of TOC (minus methane and ethane) is determined.

(a)(10) When an owner or operator seeks to comply with the requirements of this subpart by complying with the uncontrolled threshold emission rate cutoff provision in §§60.560 (d) and (e) or with the individual stream exemptions in §60.560(g), each process operation variable (e.g., pressure, temperature, type of catalyst) that may result in an increase in the uncontrolled emission rate, if §60.560(d) or (e) is applicable, or in an increase in the uncontrolled annual emissions or the VOC weight percent, as appropriate, if §60.560(g) is applicable, should such operating variable be changed.

(h) Each owner or operator of an affected facility that seeks to comply with the requirements of this subpart by complying with the uncontrolled threshold emission rate cutoff provision in §§60.560 (d) and (e) or with the individual stream exemptions in §60.560(g) shall keep for at least 2 years up-to-date, readily accessible records of any change in process operation that increases the uncontrolled emission rate of the process line in which the affected facility is located, if §60.560 (d) or (e) is applicable, or that increases the uncontrolled annual emissions or the VOC weight percent of the individual stream, if §60.560(g) is applicable.

(k) Each owner or operator that seeks to comply with the requirements of this subpart by complying with the uncontrolled threshold emission rate cutoff provision of §§60.560 (d) and (e), the individual stream exemptions of §60.560(g), or the requirements of §60.562–1 shall submit to the Administrator semiannual reports of the following recorded information, as applicable. The initial report shall be submitted within 6 months after the initial start-up date.

(k)(6) Any change in process operations that increases the uncontrolled emission rate of the process line in which the affected facility is located, as recorded in §60.565(h).

(k)(7) Any change in process operations that increases the uncontrolled annual emissions or the VOC weight percent of the individual stream, as recorded in §60.565(h).

VI. Appendix B

PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Subpart J--National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene

§ 61.110 Applicability and designation of sources.

- (a) The provisions of this subpart apply to each of the following sources that are intended to operate in benzene service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart.
- (b) The provisions of this subpart do not apply to sources located in coke by-product plants.
- (c)(1) If an owner or operator applies for one of the exemptions in this paragraph, then the owner or operator shall maintain records as required in §61.246(i).
- (2) Any equipment in benzene service that is located at a plant site designed to produce or use less than 1,000 megagrams (1,102 tons) of benzene per year is exempt from the requirements of §61.112.
- (3) Any process unit (defined in §61.241) that has no equipment in benzene service is exempt from the requirements of §61.112.
- (d) While the provisions of this subpart are effective, a source to which this subpart applies that is also subject to the provisions of 40 CFR part 60 only will be required to comply with the provisions of this subpart.

§ 61.111 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act, in subpart A of part 61, or in subpart V of part 61, and the following terms shall have the specific meanings given them:

In benzene service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent benzene by weight as determined according to the provisions of §61.245(d). The provisions of §61.245(d) also specify how to determine that a piece of equipment is not in benzene service.

Semiannual means a 6-month period; the first semiannual period concludes on the last day of the last month during the 180 days following initial startup for new sources; and the first semiannual period concludes on the last day of the last full month during the 180 days after June 6, 1984 for existing sources.

§ 61.112 Standards.

- (a) Each owner or operator subject to the provisions of this subpart shall comply with the requirements of subpart V of this part.
- (b) An owner or operator may elect to comply with the requirements of §§61.243-1 and 61.243-2.

(c) An owner or operator may apply to the Administrator for a determination of an alternative means of emission limitation that achieves a reduction in emissions of benzene at least equivalent to the reduction in emissions of benzene achieved by the controls required in this subpart. In doing so, the owner or operator shall comply with requirements of §61.244.

VII. Appendix C

PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Subpart V—National Emission Standard for Equipment Leaks (Fugitive Emission Sources)

(The following selected sections and paragraphs of subpart V are listed here for convenience.
Refer to the whole subpart for complete and detailed requirements.)

§ 61.242-1 Standards: General.

- (a) Each owner or operator subject to the provisions of this subpart shall demonstrate compliance with the requirements of §§61.242-1 to 61.242-11 for each new and existing source as required in 40 CFR 61.05, except as provided in §§61.243 and 61.244.
- (b) Compliance with this subpart will be determined by review of records, review of performance test results, and inspection using the methods and procedures specified in §61.245.
- (c)(1) An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§61.242-2, 61.242-3, 61.242-5, 61.242-6, 61.242-7, 61.242-8, 61.242-9 and 61.242-11 as provided in §61.244.
- (2) If the Administrator makes a determination that a means of emission limitation is at least a permissible alternative to the requirements of §61.242-2, 61.242-3, 61.242-5, 61.242-6, 61.242-7, 61.242-8, 61.242-9 or 61.242-11, an owner or operator shall comply with the requirements of that determination.
- (d) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.
- (e) Equipment that is in vacuum service is excluded from the requirements of §61.242-2, to §61.242-11 if it is identified as required in §61.246(e)(5).

§ 61.242-2 Standards: Pumps.

- (a)(1) Each pump shall be monitored monthly to detect leaks by the methods specified in §61.245(b), except as provided in §61.242-1(c) and paragraphs (d), (e), (f) and (g) of this section.
- (2) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.
- (b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- (2) If there are indications of liquids dripping from the pump seal, a leak is detected.
- (c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §61.242-10.
- (2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- (d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraphs (a) and (b) of this section, provided the following requirements are met:
 - (1) Each dual mechanical seal system is:

- (i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or
 - (ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of §61.242–11; or
 - (iii) Equipped with a system that purges the barrier fluid into a process stream with zero VHAP emissions to atmosphere.
- (2) The barrier fluid is not in VHAP service and, if the pump is covered by standards under 40 CFR part 60, is not in VOC service.
- (3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.
- (4) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.
- (i) If there are indications of liquid dripping from the pump seal at the time of the weekly inspection, the pump shall be monitored as specified in §61.245 to determine the presence of VOC and VHAP in the barrier fluid.
 - (ii) If the monitor reading (taking into account any background readings) indicates the presence of VHAP, a leak is detected. For the purpose of this paragraph, the monitor may be calibrated with VHAP, or may employ a gas chromatography column to limit the response of the monitor to VHAP, at the option of the owner or operator.
 - (iii) If an instrument reading of 10,000 ppm or greater (total VOC) is measured, a leak is detected.
- (5) Each sensor as described in paragraph (d)(3) of this section is checked daily or is equipped with an audible alarm.
- (6)(i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.
- (ii) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (d)(6)(i) of this section, or if, based on the criteria established in paragraph (d)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.
- (iii) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in §61.242–10.
- (iv) A first attempt at repair shall be made no later than five calendar days after each leak is detected.
- (e) Any pump that is designated, as described in §61.246(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) if the pump:
- (1) Has no externally actuated shaft penetrating the pump housing,
 - (2) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in §61.245(c), and
 - (3) Is tested for compliance with paragraph (e)(2) initially upon designation, annually, and at other times requested by the Administrator.
- (f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device that complies

with the requirements of §61.242–11, it is exempt from the requirements of paragraphs (a) through (e) of this section.

(g) Any pump that is designated, as described in §61.246(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of paragraphs (a) and (d)(4) through (6) of this section if:

(1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in paragraph (c) of this section if a leak is detected.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (a)(2) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

§ 61.242-3 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to atmosphere, except as provided in §61.242–1(c) and paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of §61.242–11; or

(3) Equipped with a system that purges the barrier fluid into a process stream with zero VHAP emissions to atmosphere.

(c) The barrier fluid shall not be in VHAP service and, if the compressor is covered by standards under 40 CFR part 60, shall not be in VOC service.

(d) Each barrier fluid system as described in paragraphs (a)–(c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm unless the compressor is located within the boundary of an unmanned plant site.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §61.242–10.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §61.242–11, except as provided in paragraph (i) of this section.

(i) Any Compressor that is designated, as described in §61.246(e)(2), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a)–(h) if the compressor:

(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in §61.245(c); and

(2) Is tested for compliance with paragraph (i)(1) initially upon designation, annually, and at other times requested by the Administrator.

§ 61.242-4 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in §61.245(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §61.242–10.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in §61.245(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in §61.242–11 is exempt from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in §61.242–10.

§ 61.242-5 Standards: Sampling connecting systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed vent system, except as provided in §61.242–1(c). Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed vent system as required in paragraph (a) of this section shall comply with the requirements specified in paragraphs (b)(1) through (4) of this section:

(1) Return the purged process fluid directly to the process line; or

- (2) Collect and recycle the purged process fluid; or
- (3) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of §61.242–11; or
- (4) Collect, store, and transport the purged process fluid to any of the following systems or facilities:
 - (i) A waste management unit as defined in 40 CFR 63.111 if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams; or
 - (ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or
 - (iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.
- (c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 61.242-6 Standards: Open-ended valves or lines.

- (a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §61.242–1(c).
- (2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.
- (b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
- (c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) at all other times.
- (d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.
- (e) Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraphs (a) through (c) of this section.

§ 61.242-7 Standards: Valves.

- (a) Each valve shall be monitored monthly to detect leaks by the method specified in §61.245(b) and shall comply with paragraphs (b)–(e), except as provided in paragraphs (f), (g), and (h) of this section, §61.243–1 or §61.243–2, and §61.242–1(c).
- (b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- (c)(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.
- (2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.
- (d)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §61.242–10.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

- (1) Tightening of bonnet bolts;
- (2) Replacement of bonnet bolts;
- (3) Tightening of packing gland nuts; and
- (4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in §61.246(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) if the valve:

- (1) Has no external actuating mechanism in contact with the process fluid;
- (2) Is operated with emissions less than 500 ppm above background, as measured by the method specified in §61.245(c); and
- (3) Is tested for compliance with paragraph (f)(2) initially upon designation, annually, and at other times requested by the Administrator.

(g) Any valve that is designated, as described in §61.246(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) if:

- (1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a); and
- (2) The owner or operator of the valve has a written plan that requires monitoring of the valve as frequent as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in §61.246(f)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) if:

- (1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface;
- (2) The process unit within which the valve is located is an existing process unit; and
- (3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 61.242-8 Standards: Pressure relief services in liquid service and connectors.

(a) If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pressure relief devices in liquid service and connectors, the owner or operator shall follow either one of the following procedures, except as provided in §61.242-1(c):

- (1) The owner or operator shall monitor the equipment within 5 days by the method specified in §61.245(b) and shall comply with the requirements of paragraphs (b) through (d) of this section.
- (2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §61.242-10.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under §61.242-7(e).

§ 61.242-9 Standards: Surge control vessels and bottoms receivers.

Each surge control vessel or bottoms receiver that is not routed back to the process and that meets the conditions specified in table 1 or table 2 of this subpart shall be equipped with a closed-vent system capable of capturing and transporting any leakage from the vessel back to the process or to a control device as described in §61.242–11, except as provided in §61.242–1(c); or comply with the requirements of 40 CFR 63.119(b) or (c).

§ 61.242-10 Standards: Delay of repair.

- (a) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.
- (b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the process and that does not remain in VHAP service.
- (c) Delay of repair for valves will be allowed if:
 - (1) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and
 - (2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §61.242–11.
- (d) Delay of repair for pumps will be allowed if:
 - (1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and
 - (2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.
- (e) Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

§ 61.242-11 Standards: Closed-vent systems and control devices.

- (a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section, except as provided in §61.242–1(c).
- (b) Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the organic vapors vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.
- (c) Enclosed combustion devices shall be designed and operated to reduce the VHAP emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C.
- (d) Flares shall used to comply with this subpart shall comply with the requirements of §60.18.

(e) Owners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their design.

(f) Except as provided in paragraphs (i) through (k) of this section, each closed vent system shall be inspected according to the procedures and schedule specified in paragraph (f)(1) or (2) of this section, as applicable.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall comply with the following requirements:

(i) Conduct an initial inspection according to the procedures in §61.245(b); and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in §61.245(b); and

(ii) Conduct annual inspections according to the procedures in §61.245(b).

(g) Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in paragraph (h) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(h) Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(i) If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of paragraphs (f)(1)(i) and (2) of this section.

(j) Any parts of the closed vent system that are designated, as described in paragraph (l)(1) of this section, as unsafe-to-inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (2) of this section if they comply with the following requirements:

(1) The owner or operator determines that the equipment is unsafe-to-inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (f)(1)(i) or (2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(k) Any parts of the closed vent system that are designated, as described in paragraph (l)(2) of this section, as difficult-to-inspect are exempt from the inspection requirements of paragraphs (f)(1)(i) and (2) of this section if they comply with the following requirements:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

(l) The owner or operator shall record the following information:

(1) Identification of all parts of the closed vent system that are designated as unsafe-to-inspect, an explanation of why the equipment is unsafe-to-inspect, and the plan for inspecting the equipment.

- (2) Identification of all parts of the closed vent system that are designated as difficult-to-inspect, an explanation of why the equipment is difficult-to-inspect, and the plan for inspecting the equipment.
- (3) For each inspection during which a leak is detected, a record of the information specified in §61.246(c).
- (4) For each inspection conducted in accordance with §61.245(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.
- (5) For each visual inspection conducted in accordance with paragraph (f)(1)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.
- (m) Closed vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

§ 61.245 Test methods and procedures.

- (a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.
- (b) Monitoring, as required in §§61.242, 61.243, 61.244, and 61.135, shall comply with the following requirements:
 - (1) Monitoring shall comply with Method 21 of appendix A of 40 CFR part 60.
 - (2) The detection instrument shall meet the performance criteria of Method 21.
 - (3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21.
 - (4) Calibration gases shall be:
 - (i) Zero air (less than 10 ppm of hydrocarbon in air); and
 - (ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.
 - (5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.
- (c) When equipment is tested for compliance with or monitored for no detectable emissions, the owner or operator shall comply with the following requirements:
 - (1) The requirements of paragraphs (b) (1) through (4) shall apply.
 - (2) The background level shall be determined, as set forth in Method 21.
 - (3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.
 - (4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.
- (d)(1) Each piece of equipment within a process unit that can conceivably contain equipment in VHAP service is presumed to be in VHAP service unless an owner or operator demonstrates that the piece of equipment is not in VHAP service. For a piece of equipment to be considered not in VHAP service, it must be determined that the percent VHAP content can be reasonably expected never to exceed 10 percent by weight. For purposes of determining the percent VHAP content of the process fluid that is contained in or contacts equipment, procedures that conform to the methods described in ASTM Method D-2267 (incorporated by the reference as specified in §61.18) shall be used.

(2)(i) An owner or operator may use engineering judgment rather than the procedures in paragraph (d)(1) of this section to demonstrate that the percent VHAP content does not exceed 10 percent by weight, provided that the engineering judgment demonstrates that the VHAP content clearly does not exceed 10 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in VHAP service, however, the procedures in paragraph (d)(1) of this section shall be used to resolve the disagreement.

(ii) If an owner or operator determines that a piece of equipment is in VHAP service, the determination can be revised only after following the procedures in paragraph (d)(1) of this section.

(3) Samples used in determining the percent VHAP content shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(e)(1) Method 22 of appendix A of 40 CFR part 60 shall be used to determine compliance of flares with the visible emission provisions of this subpart.

(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \left(\sum_{i=1}^n C_i H_i \right)$$

Where:

H_T = Net heating value of the sample, MJ/scm (BTU/scf); where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg (77 °F and 14.7 psi), but the standard temperature for determining the volume corresponding to one mole is 20 °C (68 °F).

K = conversion constant, 1.740×10^{-7} (g-mole) (MJ)/(ppm-scm-kcal) (metric units); or 4.674×10^{-8} ((g-mole) (Btu))/(ppm-scf-kcal)) (English units)

C_i = Concentration of sample component “i” in ppm, as measured by Method 18 of appendix A to 40 CFR part 60 and ASTM D2504–67, 77, or 88 (Reapproved 1993) (incorporated by reference as specified in §61.18).

H_i = net heat of combustion of sample component “i” at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in §61.18) if published values are not available or cannot be calculated.

(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Method 2, 2A, 2C, or 2D, as appropriate, by the unobstructed (free) cross section area of the flare tip.

(5) The maximum permitted velocity, V_{max} , for air-assisted flares shall be determined by the following equation:

$$V_{max} = K_1 + K_2 H_T$$

Where:

V_{max} = Maximum permitted velocity, m/sec (ft/sec).

H_T = Net heating value of the gas being combusted, as determined in paragraph (e)(3) of this section, MJ/scm (Btu/scf).

K_1 = 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

K_2 = 0.7084 m⁴/(MJ-sec) (metric units)

= 0.087 ft⁴/(Btu-sec) (English units)

§ 61.246 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one process unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by each process unit.

(b) When each leak is detected as specified in §§61.242–2, 61.242–3, 61.242–7, 61.242–8, and 61.135, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §61.242–7(c) and no leak has been detected during those 2 months.

(3) The identification on equipment, except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in §§61.242–2, 61.242–3, 61.242–7, 61.242–8, and 61.135, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date the leak was detected and the dates of each attempt to repair the leak.

(3) Repair methods applied in each attempt to repair the leak.

(4) “Above 10,000” if the maximum instrument reading measured by the methods specified in §61.245(a) after each repair attempt is equal to or greater than 10,000 ppm.

(5) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(7) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(9) The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed-vent systems and control devices described in §61.242–11 shall be recorded and kept in a readily accessible location:

(1) Detailed schematics, design specifications, and piping and instrumentation diagrams.

(2) The dates and descriptions of any changes in the design specifications.

(3) A description of the parameter or parameters monitored, as required in §61.242–11(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(4) Periods when the closed-vent systems and control devices required in §§61.242–2, 61.242–3, 61.242–4, 61.242–5 and 61.242–9 are not operated as designed, including periods when a flare pilot light does not have a flame.

(5) Dates of startups and shutdowns of the closed-vent systems and control devices required in §§61.242–2, 61.242–3, 61.242–4, 61.242–5 and 61.242–9.

- (e) The following information pertaining to all equipment to which a standard applies shall be recorded in a log that is kept in a readily accessible location:
- (1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.
 - (2)(i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background.
 - (ii) The designation of this equipment for no detectable emissions shall be signed by the owner or operator.
 - (3) A list of equipment identification numbers for pressure relief devices required to comply with §61.242–4(a).
 - (4)(i) The dates of each compliance test required in §§61.242–2(e), 61.242–3(i), 61.242–4, 61.242–7(f), and 61.135(g).
 - (ii) The background level measured during each compliance test.
 - (iii) The maximum instrument reading measured at the equipment during each compliance test.
 - (5) A list of identification numbers for equipment in vacuum service.
 - (f) The following information pertaining to all valves subject to the requirements of §61.242–7(g) and (h) and to all pumps subject to the requirements of §61.242–2(g) shall be recorded in a log that is kept in a readily accessible location:
 - (1) A list of identification numbers for valves and pumps that are designated as unsafe to monitor, an explanation for each valve or pump stating why the valve or pump is unsafe to monitor, and the plan for monitoring each valve or pump.
 - (2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.
 - (g) The following information shall be recorded for valves complying with §61.243–2:
 - (1) A schedule of monitoring.
 - (2) The percent of valves found leaking during each monitoring period.
 - (h) The following information shall be recorded in a log that is kept in a readily accessible location:
 - (1) Design criterion required in §§61.242–2(d)(5), 61.242–3(e)(2), and 61.135(e)(4) and an explanation of the design criterion; and
 - (2) Any changes to this criterion and the reasons for the changes.
 - (i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:
 - (1) An analysis demonstrating the design capacity of the process unit, and
 - (2) An analysis demonstrating that equipment is not in VHAP service.
 - (j) Information and data used to demonstrate that a piece of equipment is not in VHAP service shall be recorded in a log that is kept in a readily accessible location.

§ 61.247 Reporting requirements.

- (a)(1) An owner or operator of any piece of equipment to which this subpart applies shall submit a statement in writing notifying the Administrator that the requirements of §§61.242, 61.245, 61.246, and 61.247 are being implemented.

(2) In the case of an existing source or a new source which has an initial startup date preceding the effective date, the statement is to be submitted within 90 days of the effective date, unless a waiver of compliance is granted under §61.11, along with the information required under §61.10. If a waiver of compliance is granted, the statement is to be submitted on a date scheduled by the Administrator.

(3) In the case of new sources which did not have an initial startup date preceding December 14, 2000, the statement required under paragraph (a)(1) of this section shall be submitted with the application for approval of construction, as described in §61.07.

(4) For owners and operators complying with 40 CFR part 65, subpart C or F, the statement required under paragraph (a)(1) of this section shall notify the Administrator that the requirements of 40 CFR part 65, subpart C or F, are being implemented.

(5) The statement is to contain the following information for each source:

(i) Equipment identification number and process unit identification.

(ii) Type of equipment (for example, a pump or pipeline valve).

(iii) Percent by weight VHAP in the fluid at the equipment.

(iv) Process fluid state at the equipment (gas/vapor or liquid).

(v) Method of compliance with the standard (for example, “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(b) A report shall be submitted to the Administrator semiannually starting 6 months after the initial report required in paragraph (a) of this section, that includes the following information:

(1) Process unit identification.

(2) For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in §61.242–7(b) of §61.243–2.

(ii) Number of valves for which leaks were not repaired as required in §61.242–7(d).

(iii) Number of pumps for which leaks were detected as described in §61.242–2 (b) and (d)(6).

(iv) Number of pumps for which leaks were not repaired as required in §61.242–2 (c) and (d)(6).

(v) Number of compressors for which leaks were detected as described in §61.242–3(f).

(vi) Number of compressors for which leaks were not repaired as required in §61.242–3(g).

(vii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.

(3) Dates of process unit shutdowns which occurred within the semiannual reporting period.

(4) Revisions to items reported according to paragraph (a) if changes have occurred since the initial report or subsequent revisions to the initial report.

Note:

Compliance with the requirements of §61.10(c) is not required for revisions documented under this paragraph.

(5) The results of all performance tests and monitoring to determine compliance with no detectable emissions and with §§61.243–1 and 61.243–2 conducted within the semiannual reporting period.

(c) In the first report submitted as required in paragraph (a) of this section, the report shall include a reporting schedule stating the months that semiannual reports shall be submitted. Subsequent reports shall be submitted according to that schedule, unless a revised schedule has been submitted in a previous semiannual report.

(d) An owner or operator electing to comply with the provisions of §§61.243–1 and 61.243–2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions.

(e) An application for approval of construction or modification, §§61.05(a) and 61.07, will not be required if—

- (1) The new source complies with the standard, §61.242;
- (2) The new source is not part of the construction of a process unit; and
- (3) In the next semiannual report required by paragraph (b) of this section, the information in paragraph (a)(5) of this section is reported.

(f) For owners or operators choosing to comply with 40 CFR part 65, subpart C or F, an application for approval of construction or modification, as required under §§61.05 and 61.07 will not be required if:

- (1) The new source complies with 40 CFR 65.106 through 65.115 and with 40 CFR part 65, subpart C, for surge control vessels and bottoms receivers;
- (2) The new source is not part of the construction of a process unit; and
- (3) In the next semiannual report required by 40 CFR 65.120(b) and 65.48(b), the information in paragraph (a)(5) of this section is reported.

Table 1 to Part 61, Subpart V—Surge Control Vessels and Bottoms Receivers at Existing Sources

Vessel capacity (cubic meters)	Vapor pressure ⁽¹⁾ (kilopascals)
75 < capacity < 151	>= 13.1
151 < capacity	>= 5.2

⁽¹⁾ Maximum true vapor pressure as defined in § 61.241.

Table 2 to Part 61, Subpart V—Surge Control Vessels and Bottoms Receivers at New Sources

Vessel capacity (cubic meters)	Vapor pressure ⁽¹⁾ (kilopascals)
38 < capacity < 151	>= 13.1
151 < capacity	>= 0.7

⁽¹⁾ Maximum true vapor pressure as defined in § 61.241.

VIII. Appendix D

PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Subpart BB—National Emission Standard for Benzene Emissions From Benzene Transfer Operations

(The following selected sections and paragraphs of subpart BB are listed here for convenience. Refer to the whole subpart for complete and detailed requirements.)

§ 61.300 Applicability.

(a) The affected facility to which this subpart applies is the total of all loading racks at which benzene is loaded into tank trucks, railcars, or marine vessels at each benzene production facility and each bulk terminal. However, specifically exempted from this regulation are loading racks at which only the following are loaded: Benzene-laden waste (covered under subpart FF of this part), gasoline, crude oil, natural gas liquids, petroleum distillates (e.g., fuel oil, diesel, or kerosene), or benzene-laden liquid from coke by-product recovery plants.

(b) Any affected facility under paragraph (a) of this section which loads only liquid containing less than 70 weight-percent benzene is exempt from the requirements of this subpart, except for the recordkeeping and reporting requirements in §61.305(i).

§ 61.305 Reporting and recordkeeping.

(i) Each owner or operator of an affected facility complying with §61.300(b) or §61.300(d) shall record the following information. The first year after promulgation the owner or operator shall submit a report containing the requested information to the Director of the Emission Standards Division, (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. After the first year, the owner or operator shall continue to record; however, no reporting is required. The information shall be made available if requested. The information shall include, as a minimum:

- (1) The affected facility's name and address;
- (2) The weight percent of the benzene loaded;
- (3) The type of vessel loaded (i.e., tank truck, railcar, or marine vessel); and
- (4) The annual amount of benzene loaded into each type of vessel.

IX. Appendix E

PART 61—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Subpart FF—National Emission Standard for Benzene Waste Operations

(The following selected sections and paragraphs of subpart FF are listed here for convenience. Refer to the whole subpart for complete and detailed requirements.)

§ 61.340 Applicability.

- (a) The provisions of this subpart apply to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries.
- (b) The provisions of this subpart apply to owners and operators of hazardous waste treatment, storage, and disposal facilities that treat, store, or dispose of hazardous waste generated by any facility listed in paragraph (a) of this section. The waste streams at hazardous waste treatment, storage, and disposal facilities subject to the provisions of this subpart are the benzene-containing hazardous waste from any facility listed in paragraph (a) of this section. A hazardous waste treatment, storage, and disposal facility is a facility that must obtain a hazardous waste management permit under subtitle C of the Solid Waste Disposal Act.
- (c) At each facility identified in paragraph (a) or (b) of this section, the following waste is exempt from the requirements of this subpart:
 - (1) Waste in the form of gases or vapors that is emitted from process fluids:
 - (2) Waste that is contained in a segregated stormwater sewer system.
- (d) At each facility identified in paragraph (a) or (b) of this section, any gaseous stream from a waste management unit, treatment process, or wastewater treatment system routed to a fuel gas system, as defined in §61.341, is exempt from this subpart. No testing, monitoring, recordkeeping, or reporting is required under this subpart for any gaseous stream from a waste management unit, treatment process, or wastewater treatment unit routed to a fuel gas system.

§ 61.342 Standards: General.

- (a) An owner or operator of a facility at which the total annual benzene quantity from facility waste is less than 10 megagrams per year (Mg/yr) (11 ton/yr) shall be exempt from the requirements of paragraphs (b) and (c) of this section. The total annual benzene quantity from facility waste is the sum of the annual benzene quantity for each waste stream at the facility that has a flow-weighted annual average water content greater than 10 percent or that is mixed with water, or other wastes, at any time and the mixture has an annual average water content greater than 10 percent. The benzene quantity in a waste stream is to be counted only once without multiple counting if other waste streams are mixed with or generated from the original waste stream. Other specific requirements for calculating the total annual benzene waste quantity are as follows:
 - (1) Wastes that are exempted from control under §§61.342(c)(2) and 61.342(c)(3) are included in the calculation of the total annual benzene quantity if they have an annual average water content greater than 10 percent, or if they are mixed with water or other wastes at any time and the mixture has an annual average water content greater than 10 percent.

(2) The benzene in a material subject to this subpart that is sold is included in the calculation of the total annual benzene quantity if the material has an annual average water content greater than 10 percent.

(3) Benzene in wastes generated by remediation activities conducted at the facility, such as the excavation of contaminated soil, pumping and treatment of groundwater, and the recovery of product from soil or groundwater, are not included in the calculation of total annual benzene quantity for that facility. If the facility's total annual benzene quantity is 10 Mg/yr (11 ton/yr) or more, wastes generated by remediation activities are subject to the requirements of paragraphs (c) through (h) of this section. If the facility is managing remediation waste generated offsite, the benzene in this waste shall be included in the calculation of total annual benzene quantity in facility waste, if the waste streams have an annual average water content greater than 10 percent, or if they are mixed with water or other wastes at any time and the mixture has an annual average water content greater than 10 percent.

(4) The total annual benzene quantity is determined based upon the quantity of benzene in the waste before any waste treatment occurs to remove the benzene except as specified in §61.355(c)(1)(i) (A) through (C).

(b) Each owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section shall be in compliance with the requirements of paragraphs (c) through (h) of this section no later than 90 days following the effective date, unless a waiver of compliance has been obtained under §61.11, or by the initial startup for a new source with an initial startup after the effective date.

(1) The owner or operator of an existing source unable to comply with the rule within the required time may request a waiver of compliance under §61.10.

(2) As part of the waiver application, the owner or operator shall submit to the Administrator a plan under §61.10(b)(3) that is an enforceable commitment to obtain environmental benefits to mitigate the benzene emissions that result from extending the compliance date. The plan shall include the following information:

(i) A description of the method of compliance, including the control approach, schedule for installing controls, and quantity of the benzene emissions that result from extending the compliance date;

(ii) If the control approach involves a compliance strategy designed to obtain integrated compliance with multiple regulatory requirements, a description of the other regulations involved and their effective dates; and

(iii) A description of the actions to be taken at the facility to obtain mitigating environmental benefits, including how the benefits will be obtained, the schedule for these actions, and an estimate of the quantifiable benefits that directly result from these actions.

(c) Each owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section shall manage and treat the facility waste as follows:

(1) For each waste stream that contains benzene, including (but not limited to) organic waste streams that contain less than 10 percent water and aqueous waste streams, even if the wastes are not discharged to an individual drain system, the owner or operator shall:

(i) Remove or destroy the benzene contained in the waste using a treatment process or wastewater treatment system that complies with the standards specified in §61.348 of this subpart.

- (ii) Comply with the standards specified in §§61.343 through 61.347 of this subpart for each waste management unit that receives or manages the waste stream prior to and during treatment of the waste stream in accordance with paragraph (c)(1)(i) of this section.
- (iii) Each waste management unit used to manage or treat waste streams that will be recycled to a process shall comply with the standards specified in §§61.343 through 61.347. Once the waste stream is recycled to a process, including to a tank used for the storage of production process feed, product, or product intermediates, unless this tank is used primarily for the storage of wastes, the material is no longer subject to paragraph (c) of this section.
- (2) A waste stream is exempt from paragraph (c)(1) of this section provided that the owner or operator demonstrates initially and, thereafter, at least once per year that the flow-weighted annual average benzene concentration for the waste stream is less than 10 ppmw as determined by the procedures specified in §61.355(c)(2) or §61.355(c)(3).
- (3) A waste stream is exempt from paragraph (c)(1) of this section provided that the owner or operator demonstrates initially and, thereafter, at least once per year that the conditions specified in either paragraph (c)(3)(i) or (c)(3)(ii) of this section are met.
- (i) The waste stream is process wastewater that has a flow rate less than 0.02 liters per minute (0.005 gallons per minute) or an annual wastewater quantity of less than 10 Mg/yr (11 ton/yr); or
- (ii) All of the following conditions are met:
- (A) The owner or operator does not choose to exempt process wastewater under paragraph (c)(3)(i) of this section,
- (B) The total annual benzene quantity in all waste streams chosen for exemption in paragraph (c)(3)(ii) of this section does not exceed 2.0 Mg/yr (2.2 ton/yr) as determined in the procedures in §61.355(j), and
- (C) The total annual benzene quantity in a waste stream chosen for exemption, including process unit turnaround waste, is determined for the year in which the waste is generated.
- (d) As an alternative to the requirements specified in paragraphs (c) and (e) of this section, an owner or operator of a facility at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section may elect to manage and treat the facility waste as follows:
- (1) The owner or operator shall manage and treat facility waste other than process wastewater in accordance with the requirements of paragraph (c)(1) of this section.
- (2) The owner or operator shall manage and treat process wastewater in accordance with the following requirements:
- (i) Process wastewater shall be treated to achieve a total annual benzene quantity from facility process wastewater less than 1 Mg/yr (1.1 ton/yr). Total annual benzene from facility process wastewater shall be determined by adding together the annual benzene quantity at the point of waste generation for each untreated process wastewater stream plus the annual benzene quantity exiting the treatment process for each process wastewater stream treated in accordance with the requirements of paragraph (c)(1)(i) of this section.
- (ii) Each treated process wastewater stream identified in paragraph (d)(2)(i) of this section shall be managed and treated in accordance with paragraph (c)(1) of this section.
- (iii) Each untreated process wastewater stream identified in paragraph (d)(2)(i) of this section is exempt from the requirements of paragraph (c)(1) of this section.
- (e) As an alternative to the requirements specified in paragraphs (c) and (d) of this section, an owner or operator of a facility at which the total annual benzene quantity from facility waste is

equal to or greater than 10 Mg/yr (11 ton/yr) as determined in paragraph (a) of this section may elect to manage and treat the facility waste as follows:

(1) The owner or operator shall manage and treat facility waste with a flow-weighted annual average water content of less than 10 percent in accordance with the requirements of paragraph (c)(1) of this section; and

(2) The owner or operator shall manage and treat facility waste (including remediation and process unit turnaround waste) with a flow-weighted annual average water content of 10 percent or greater, on a volume basis as total water, and each waste stream that is mixed with water or wastes at any time such that the resulting mixture has an annual water content greater than 10 percent, in accordance with the following:

(i) The benzene quantity for the wastes described in paragraph (e)(2) of this section must be equal to or less than 6.0 Mg/yr (6.6 ton/yr), as determined in §61.355(k). Wastes as described in paragraph (e)(2) of this section that are transferred offsite shall be included in the determination of benzene quantity as provided in §61.355(k). The provisions of paragraph (f) of this section shall not apply to any owner or operator who elects to comply with the provisions of paragraph (e) of this section.

(ii) The determination of benzene quantity for each waste stream defined in paragraph (e)(2) of this section shall be made in accordance with §61.355(k).

(f) Rather than treating the waste onsite, an owner or operator may elect to comply with paragraph (c)(1)(i) of this section by transferring the waste offsite to another facility where the waste is treated in accordance with the requirements of paragraph (c)(1)(i) of this section. The owner or operator transferring the waste shall:

(1) Comply with the standards specified in §§61.343 through 61.347 of this subpart for each waste management unit that receives or manages the waste prior to shipment of the waste offsite.

(2) Include with each offsite waste shipment a notice stating that the waste contains benzene which is required to be managed and treated in accordance with the provisions of this subpart.

(g) Compliance with this subpart will be determined by review of facility records and results from tests and inspections using methods and procedures specified in §61.355 of this subpart.

(h) Permission to use an alternative means of compliance to meet the requirements of §§61.342 through 61.352 of this subpart may be granted by the Administrator as provided in §61.353 of this subpart.

§ 61.346 Standards: Individual drain systems.

(a) Except as provided in paragraph (b) of this section, the owner or operator shall meet the following standards for each individual drain system in which waste is placed in accordance with §61.342(c)(1)(ii) of this subpart:

(1) The owner or operator shall install, operate, and maintain on each drain system opening a cover and closed-vent system that routes all organic vapors vented from the drain system to a control device.

(i) The cover shall meet the following requirements:

(A) The cover and all openings (e.g., access hatches, sampling ports) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in §61.355(h) of this subpart.

(B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the drain system except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

(C) If the cover and closed-vent system operate such that the individual drain system is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:

- (1) The purpose of the opening is to provide dilution air to reduce the explosion hazard;
- (2) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h); and
- (3) The pressure is monitored continuously to ensure that the pressure in the individual drain system remains below atmospheric pressure.

(ii) The closed-vent system and control device shall be designed and operated in accordance with §61.349 of this subpart.

(2) Each cover seal, access hatch, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access hatches and other openings are closed and gasketed properly.

(3) Except as provided in §61.350 of this subpart, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

(b) As an alternative to complying with paragraph (a) of this section, an owner or operator may elect to comply with the following requirements:

(1) Each drain shall be equipped with water seal controls or a tightly sealed cap or plug.

(2) Each junction box shall be equipped with a cover and may have a vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter.

(i) Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance.

(ii) One of the following methods shall be used to control emissions from the junction box vent pipe to the atmosphere:

(A) Equip the junction box with a system to prevent the flow of organic vapors from the junction box vent pipe to the atmosphere during normal operation. An example of such a system includes use of water seal controls on the junction box. A flow indicator shall be installed, operated, and maintained on each junction box vent pipe to ensure that organic vapors are not vented from the junction box to the atmosphere during normal operation.

(B) Connect the junction box vent pipe to a closed-vent system and control device in accordance with §61.349 of this subpart.

(3) Each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces.

(4) Equipment installed in accordance with paragraphs (b)(1), (b)(2), or (b)(3) of this section shall be inspected as follows:

(i) Each drain using water seal controls shall be checked by visual or physical inspection initially and thereafter quarterly for indications of low water levels or other conditions that would reduce the effectiveness of water seal controls.

(ii) Each drain using a tightly sealed cap or plug shall be visually inspected initially and thereafter quarterly to ensure caps or plugs are in place and properly installed.

- (iii) Each junction box shall be visually inspected initially and thereafter quarterly to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge.
- (iv) The unburied portion of each sewer line shall be visually inspected initially and thereafter quarterly for indication of cracks, gaps, or other problems that could result in benzene emissions.
- (5) Except as provided in §61.350 of this subpart, when a broken seal, gap, crack or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

§ 61.348 Standards: Treatment processes.

(a) Except as provided in paragraph (a)(5) of this section, the owner or operator shall treat the waste stream in accordance with the following requirements:

(1) The owner or operator shall design, install, operate, and maintain a treatment process that either:

- (i) Removes benzene from the waste stream to a level less than 10 parts per million by weight (ppmw) on a flow-weighted annual average basis,
- (ii) Removes benzene from the waste stream by 99 percent or more on a mass basis, or
- (iii) Destroys benzene in the waste stream by incinerating the waste in a combustion unit that achieves a destruction efficiency of 99 percent or greater for benzene.

(2) Each treatment process complying with paragraphs (a)(1)(i) or (a)(1)(ii) of this section shall be designed and operated in accordance with the appropriate waste management unit standards specified in §§61.343 through 61.347 of this subpart. For example, if a treatment process is a tank, then the owner or operator shall comply with §61.343 of this subpart.

(3) For the purpose of complying with the requirements specified in paragraph (a)(1)(i) of this section, the intentional or unintentional reduction in the benzene concentration of a waste stream by dilution of the waste stream with other wastes or materials is not allowed.

(4) An owner or operator may aggregate or mix together individual waste streams to create a combined waste stream for the purpose of facilitating treatment of waste to comply with the requirements of paragraph (a)(1) of this section except as provided in paragraph (a)(5) of this section.

(5) If an owner or operator aggregates or mixes any combination of process wastewater, product tank drawdown, or landfill leachate subject to §61.342(c)(1) of this subpart together with other waste streams to create a combined waste stream for the purpose of facilitating management or treatment of waste in a wastewater treatment system, then the wastewater treatment system shall be operated in accordance with paragraph (b) of this section. These provisions apply to above-ground wastewater treatment systems as well as those that are at or below ground level.

(b) Except for facilities complying with §61.342(e), the owner or operator that aggregates or mixes individual waste streams as defined in paragraph (a)(5) of this section for management and treatment in a wastewater treatment system shall comply with the following requirements:

(1) The owner or operator shall design and operate each waste management unit that comprises the wastewater treatment system in accordance with the appropriate standards specified in §§61.343 through 61.347 of this subpart.

(2) The provisions of paragraph (b)(1) of this section do not apply to any waste management unit that the owner or operator demonstrates to meet the following conditions initially and, thereafter, at least once per year:

(i) The benzene content of each waste stream entering the waste management unit is less than 10 ppmw on a flow-weighted annual average basis as determined by the procedures specified in §61.355(c) of this subpart; and

(ii) The total annual benzene quantity contained in all waste streams managed or treated in exempt waste management units comprising the facility wastewater treatment systems is less than 1 Mg/yr (1.1 ton/yr). For this determination, total annual benzene quantity shall be calculated as follows:

(A) The total annual benzene quantity shall be calculated as the sum of the individual benzene quantities determined at each location where a waste stream first enters an exempt waste management unit. The benzene quantity discharged from an exempt waste management unit shall not be included in this calculation.

(B) The annual benzene quantity in a waste stream managed or treated in an enhanced biodegradation unit shall not be included in the calculation of the total annual benzene quantity, if the enhanced biodegradation unit is the first exempt unit in which the waste is managed or treated. A unit shall be considered enhanced biodegradation if it is a suspended-growth process that generates biomass, uses recycled biomass, and periodically removes biomass from the process. An enhanced biodegradation unit typically operates at a food-to-microorganism ratio in the range of 0.05 to 1.0 kg of biological oxygen demand per kg of biomass per day, a mixed liquor suspended solids ratio in the range of 1 to 8 grams per liter (0.008 to 0.7 pounds per liter), and a residence time in the range of 3 to 36 hours.

(c) The owner and operator shall demonstrate that each treatment process or wastewater treatment system unit, except as provided in paragraph (d) of this section, achieves the appropriate conditions specified in paragraphs (a) or (b) of this section in accordance with the following requirements:

(1) Engineering calculations in accordance with requirements specified in §61.356(e) of this subpart; or

(2) Performance tests conducted using the test methods and procedures that meet the requirements specified in §61.355 of this subpart.

(d) A treatment process or waste stream is in compliance with the requirements of this subpart and exempt from the requirements of paragraph (c) of this section provided that the owner or operator documents that the treatment process or waste stream is in compliance with other regulatory requirements as follows:

(1) The treatment process is a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O;

(2) The treatment process is an industrial furnace or boiler burning hazardous waste for energy recovery for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart D;

(3) The waste stream is treated by a means or to a level that meets benzene-specific treatment standards in accordance with the Land Disposal Restrictions under 40 CFR part 268, and the treatment process is designed and operated with a closed-vent system and control device meeting the requirements of §61.349 of this subpart;

(4) The waste stream is treated by a means or to a level that meets benzene-specific effluent limitations or performance standards in accordance with the Effluent Guidelines and Standards under 40 CFR parts 401–464, and the treatment process is designed and operated with a closed-vent system and control device meeting the requirements of §61.349 of this subpart; or

(5) The waste stream is discharged to an underground injection well for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 122.

(e) Except as specified in paragraph (e)(3) of this section, if the treatment process or wastewater treatment system unit has any openings (e.g., access doors, hatches, etc.), all such openings shall be sealed (e.g., gasketed, latched, etc.) and kept closed at all times when waste is being treated, except during inspection and maintenance.

(1) Each seal, access door, and all other openings shall be checked by visual inspections initially and quarterly thereafter to ensure that no cracks or gaps occur and that openings are closed and gasketed properly.

(2) Except as provided in §61.350 of this subpart, when a broken seal or gasket or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

(3) If the cover and closed-vent system operate such that the treatment process and wastewater treatment system unit are maintained at a pressure less than atmospheric pressure, the owner or operator may operate the system with an opening that is not sealed and kept closed at all times if the following conditions are met:

(i) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

(ii) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in §61.355(h); and

(iii) The pressure is monitored continuously to ensure that the pressure in the treatment process and wastewater treatment system unit remain below atmospheric pressure.

(f) Except for treatment processes complying with paragraph (d) of this section, the Administrator may request at any time an owner or operator demonstrate that a treatment process or wastewater treatment system unit meets the applicable requirements specified in paragraphs (a) or (b) of this section by conducting a performance test using the test methods and procedures as required in §61.355 of this subpart.

(g) The owner or operator of a treatment process or wastewater treatment system unit that is used to comply with the provisions of this section shall monitor the unit in accordance with the applicable requirements in §61.354 of this subpart.

§ 61.354 Monitoring of operations.

(a) Except for a treatment process or waste stream complying with §61.348(d), the owner or operator shall monitor each treatment process or wastewater treatment system unit to ensure the unit is properly operated and maintained by one of the following monitoring procedures:

(1) Measure the benzene concentration of the waste stream exiting the treatment process complying with §61.348(a)(1)(i) at least once per month by collecting and analyzing one or more samples using the procedures specified in §61.355(c)(3).

(2) Install, calibrate, operate, and maintain according to manufacturer's specifications equipment to continuously monitor and record a process parameter (or parameters) for the treatment process or wastewater treatment system unit that indicates proper system operation. The owner or operator shall inspect at least once each operating day the data recorded by the monitoring equipment (e.g., temperature monitor or flow indicator) to ensure that the unit is operating properly.

(b) If an owner or operator complies with the requirements of §61.348(b), then the owner or operator shall monitor each wastewater treatment system to ensure the unit is properly operated and maintained by the appropriate monitoring procedure as follows:

(1) For the first exempt waste management unit in each waste treatment train, other than an enhanced biodegradation unit, measure the flow rate, using the procedures of §61.355(b), and the benzene concentration of each waste stream entering the unit at least once per month by collecting and analyzing one or more samples using the procedures specified in §61.355(c)(3).

(2) For each enhanced biodegradation unit that is the first exempt waste management unit in a treatment train, measure the benzene concentration of each waste stream entering the unit at least once per month by collecting and analyzing one or more samples using the procedures specified in §61.355(c)(3).

(c) An owner or operator subject to the requirements in §61.349 of this subpart shall install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor the control device operation as specified in the following paragraphs, unless alternative monitoring procedures or requirements are approved for that facility by the Administrator. The owner or operator shall inspect at least once each operating day the data recorded by the monitoring equipment (e.g., temperature monitor or flow indicator) to ensure that the control device is operating properly.

(1) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a representative location in the combustion chamber.

(2) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations, and have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(3) For a flare, a monitoring device in accordance with 40 CFR 60.18(f)(2) equipped with a continuous recorder.

(4) For a boiler or process heater having a design heat input capacity less than 44 MW (150×106 BTU/hr), a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. The temperature sensor shall be installed at a representative location in the combustion chamber.

(5) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW (150×106 BTU/hr), a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(6) For a condenser, either:

(i) A monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the condenser; or

(ii) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations, and have an accuracy of ± 1 percent of the temperature being monitored in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater. One temperature sensor

shall be installed at a location in the exhaust stream from the condenser, and a second temperature sensor shall be installed at a location in the coolant fluid exiting the condenser.

(7) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber, either:

(i) A monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the benzene concentration level in the exhaust vent stream from the carbon bed; or

(ii) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(8) For a vapor recovery system other than a condenser or carbon adsorption system, a monitoring device equipped with a continuous recorder to measure either the concentration level of the organic compounds or the benzene concentration level in the exhaust vent stream from the control device.

(9) For a control device subject to the requirements of §61.349(a)(2)(iv), devices to monitor the parameters as specified in §61.349(a)(2)(iv)(C).

(d) For a carbon adsorption system that does not regenerate the carbon bed directly on site in the control device (e.g., a carbon canister), either the concentration level of the organic compounds or the concentration level of benzene in the exhaust vent stream from the carbon adsorption system shall be monitored on a regular schedule, and the existing carbon shall be replaced with fresh carbon immediately when carbon breakthrough is indicated. The device shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and either the organic concentration or the benzene concentration in the gas stream vented to the carbon adsorption system.

(e) An alternative operation or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

(f) Owners or operators using a closed-vent system that contains any bypass line that could divert a vent stream from a control device used to comply with the provisions of this subpart shall do the following:

(1) Visually inspect the bypass line valve at least once every month, checking the position of the valve and the condition of the car-seal or closure mechanism required under §61.349(a)(1)(ii) to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

(2) Visually inspect the readings from each flow monitoring device required by §61.349(a)(1)(ii) at least once each operating day to check that vapors are being routed to the control device as required.

(g) Each owner or operator who uses a system for emission control that is maintained at a pressure less than atmospheric pressure with openings to provide dilution air shall install, calibrate, maintain, and operate according to the manufacturer's specifications a device equipped with a continuous recorder to monitor the pressure in the unit to ensure that it is less than atmospheric pressure.

§ 61.355 Test methods, procedures, and compliance provisions.

(a) An owner or operator shall determine the total annual benzene quantity from facility waste by the following procedure:

(1) For each waste stream subject to this subpart having a flow-weighted annual average water content greater than 10 percent water, on a volume basis as total water, or is mixed with water or other wastes at any time and the resulting mixture has an annual average water content greater than 10 percent as specified in §61.342(a), the owner or operator shall:

(i) Determine the annual waste quantity for each waste stream using the procedures specified in paragraph (b) of this section.

(ii) Determine the flow-weighted annual average benzene concentration for each waste stream using the procedures specified in paragraph (c) of this section.

(iii) Calculate the annual benzene quantity for each waste stream by multiplying the annual waste quantity of the waste stream times the flow-weighted annual average benzene concentration.

(2) Total annual benzene quantity from facility waste is calculated by adding together the annual benzene quantity for each waste stream generated during the year and the annual benzene quantity for each process unit turnaround waste annualized according to paragraph (b)(4) of this section.

(3) If the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), then the owner or operator shall comply with the requirements of §61.342 (c), (d), or (e).

(4) If the total annual benzene quantity from facility waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall:

(i) Comply with the recordkeeping requirements of §61.356 and reporting requirements of §61.357 of this subpart; and

(ii) Repeat the determination of total annual benzene quantity from facility waste at least once per year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more.

(5) If the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall:

(i) Comply with the recordkeeping requirements of §61.356 and reporting requirements of §61.357 of this subpart; and

(ii) Repeat the determination of total annual benzene quantity from facility waste whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more.

(6) The benzene quantity in a waste stream that is generated less than one time per year, except as provided for process unit turnaround waste in paragraph (b)(4) of this section, shall be included in the determination of total annual benzene quantity from facility waste for the year in which the waste is generated unless the waste stream is otherwise excluded from the determination of total annual benzene quantity from facility waste in accordance with paragraphs (a) through (c) of this section. The benzene quantity in this waste stream shall not be annualized or averaged over the time interval between the activities that resulted in generation of the waste, for purposes of determining the total annual benzene quantity from facility waste.

(b) For purposes of the calculation required by paragraph (a) of this section, an owner or operator shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in paragraphs (b) (1), (2), (3), and (4) of this section, by one of the methods given in paragraphs (b) (5) through (7) of this section.

- (1) The determination of annual waste quantity for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.
- (2) The determination of annual waste quantity for wastes at coke by-product plants subject to and complying with the control requirements of §61.132, 61.133, 61.134, or 61.139 of subpart L of this part shall be made at the location that the waste stream exits the process unit component or waste management unit controlled by that subpart or at the exit of the ammonia still, provided that the following conditions are met:
 - (i) The transfer of wastes between units complying with the control requirements of subpart L of this part, process units, and the ammonia still is made through hard piping or other enclosed system.
 - (ii) The ammonia still meets the definition of a sour water stripper in §61.341.
- (3) The determination of annual waste quantity for wastes that are received at hazardous waste treatment, storage, or disposal facilities from offsite shall be made at the point where the waste enters the hazardous waste treatment, storage, or disposal facility.
- (4) The determination of annual waste quantity for each process unit turnaround waste generated only at 2 year or greater intervals, may be made by dividing the total quantity of waste generated during the most recent process unit turnaround by the time period (in the nearest tenth of a year) between the turnaround resulting in generation of the waste and the most recent preceding process turnaround for the unit. The resulting annual waste quantity shall be included in the calculation of the annual benzene quantity as provided in paragraph (a)(1)(iii) of this section for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process turnaround. For estimates of total annual benzene quantity as specified in the 90-day report, required under §61.357(a)(1), the owner or operator shall estimate the waste quantity generated during the most recent turnaround, and the time period between turnarounds in accordance with good engineering practices. If the owner or operator chooses not to annualize process unit turnaround waste, as specified in this paragraph, then the process unit turnaround waste quantity shall be included in the calculation of the annual benzene quantity for the year in which the turnaround occurs.
- (5) Select the highest annual quantity of waste managed from historical records representing the most recent 5 years of operation or, if the facility has been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the facility;
- (6) Use the maximum design capacity of the waste management unit; or
- (7) Use measurements that are representative of maximum waste generation rates.
- (c) For the purposes of the calculation required by §§61.355(a) of this subpart, an owner or operator shall determine the flow-weighted annual average benzene concentration in a manner that meets the requirements given in paragraph (c)(1) of this section using either of the methods given in paragraphs (c)(2) and (c)(3) of this section.
 - (1) The determination of flow-weighted annual average benzene concentration shall meet all of the following criteria:
 - (i) The determination shall be made at the point of waste generation except for the specific cases given in paragraphs (c)(1)(i)(A) through (D) of this section.
 - (A) The determination for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.
 - (B) The determination for wastes at coke by-product plants subject to and complying with the control requirements of §61.132, 61.133, 61.134, or 61.139 of subpart L of this part shall be made at the location that the waste stream exits the process unit component or waste

management unit controlled by that subpart or at the exit of the ammonia still, provided that the following conditions are met:

(1) The transfer of wastes between units complying with the control requirements of subpart L of this part, process units, and the ammonia still is made through hard piping or other enclosed system.

(2) The ammonia still meets the definition of a sour water stripper in §61.341.

(C) The determination for wastes that are received from offsite shall be made at the point where the waste enters the hazardous waste treatment, storage, or disposal facility.

(D) The determination of flow-weighted annual average benzene concentration for process unit turnaround waste shall be made using either of the methods given in paragraph (c)(2) or (c)(3) of this section. The resulting flow-weighted annual average benzene concentration shall be included in the calculation of annual benzene quantity as provided in paragraph (a)(1)(iii) of this section for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process unit turnaround.

(ii) Volatilization of the benzene by exposure to air shall not be used in the determination to reduce the benzene concentration.

(iii) Mixing or diluting the waste stream with other wastes or other materials shall not be used in the determination—to reduce the benzene concentration.

(iv) The determination shall be made prior to any treatment of the waste that removes benzene, except as specified in paragraphs (c)(1)(i)(A) through (D) of this section.

(v) For wastes with multiple phases, the determination shall provide the weighted-average benzene concentration based on the benzene concentration in each phase of the waste and the relative proportion of the phases.

(2) Knowledge of the waste. The owner or operator shall provide sufficient information to document the flow-weighted annual average benzene concentration of each waste stream. Examples of information that could constitute knowledge include material balances, records of chemicals purchases, or previous test results provided the results are still relevant to the current waste stream conditions. If test data are used, then the owner or operator shall provide documentation describing the testing protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the flow-weighted annual average benzene concentration for the waste stream. When an owner or operator and the Administrator do not agree on determinations of the flow-weighted annual average benzene concentration based on knowledge of the waste, the procedures under paragraph (c)(3) of this section shall be used to resolve the disagreement.

(3) Measurements of the benzene concentration in the waste stream in accordance with the following procedures:

(i) Collect a minimum of three representative samples from each waste stream. Where feasible, samples shall be taken from an enclosed pipe prior to the waste being exposed to the atmosphere.

(ii) For waste in enclosed pipes, the following procedures shall be used:

(A) Samples shall be collected prior to the waste being exposed to the atmosphere in order to minimize the loss of benzene prior to sampling.

(B) A static mixer shall be installed in the process line or in a by-pass line unless the owner or operator demonstrates that installation of a static mixer in the line is not necessary to accurately determine the benzene concentration of the waste stream.

(C) The sampling tap shall be located within two pipe diameters of the static mixer outlet.

(D) Prior to the initiation of sampling, sample lines and cooling coil shall be purged with at least four volumes of waste.

(E) After purging, the sample flow shall be directed to a sample container and the tip of the sampling tube shall be kept below the surface of the waste during sampling to minimize contact with the atmosphere.

(F) Samples shall be collected at a flow rate such that the cooling coil is able to maintain a waste temperature less than 10 °C (50 °F).

(G) After filling, the sample container shall be capped immediately (within 5 seconds) to leave a minimum headspace in the container.

(H) The sample containers shall immediately be cooled and maintained at a temperature below 10 °C (50 °F) for transfer to the laboratory.

(iii) When sampling from an enclosed pipe is not feasible, a minimum of three representative samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of benzene prior to sampling.

(iv) Each waste sample shall be analyzed using one of the following test methods for determining the benzene concentration in a waste stream:

(A) Method 8020, Aromatic Volatile Organics, in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW-846 (incorporation by reference as specified in §61.18 of this part);

(B) Method 8021, Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW-846 (incorporation by reference as specified in §61.18 of this part);

(C) Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW-846 (incorporation by reference as specified in §61.18 of this part);

(D) Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics: Capillary Column Technique in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication No. SW-846 (incorporation by reference as specified in §61.18 of this part);

(E) Method 602, Purgeable Aromatics, as described in 40 CFR part 136, appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA methods; or

(F) Method 624, Purgeables, as described in 40 CFR part 136, appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA method.

(v) The flow-weighted annual average benzene concentration shall be calculated by averaging the results of the sample analyses as follows:

$$\bar{C} = \frac{1}{Q_t} \times \sum_{i=1}^n (Q_i)(C_i)$$

Where:

\bar{C} = Flow-weighted annual average benzene concentration for waste stream, ppmw.

Q_t = Total annual waste quantity for waste stream, kg/yr (lb/yr).

n = Number of waste samples (at least 3).

Q_i = Annual waste quantity for waste stream represented by C_i , kg/yr (lb/yr).

C_i = Measured concentration of benzene in waste sample i , ppmw.

(d) An owner or operator using performance tests to demonstrate compliance of a treatment process with §61.348 (a)(1)(i) shall measure the flow-weighted annual average benzene

concentration of the waste stream exiting the treatment process by collecting and analyzing a minimum of three representative samples of the waste stream using the procedures in paragraph (c)(3) of this section. The test shall be conducted under conditions that exist when the treatment process is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information as is necessary to document the operating conditions during the test.

(e) An owner or operator using performance tests to demonstrate compliance of a treatment process with §61.348(a)(1)(ii) of this subpart shall determine the percent reduction of benzene in the waste stream on a mass basis by the following procedure:

(1) The test shall be conducted under conditions that exist when the treatment process is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information as is necessary to document the operating conditions during the test.

(2) All testing equipment shall be prepared and installed as specified in the appropriate test methods.

(3) The mass flow rate of benzene entering the treatment process (E_b) shall be determined by computing the product of the flow rate of the waste stream entering the treatment process, as determined by the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling and analytical procedures specified in paragraph (c)(2) or (c)(3) of this section. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over a 3-hour period. The mass flow rate of benzene entering the treatment process is calculated as follows:

$$E_b = \frac{K}{n \times 10^6} \left[\sum_{i=1}^n V_i C_i \right]$$

Where:

E_b = Mass flow rate of benzene entering the treatment process, kg/hr (lb/hr).

K = Density of the waste stream, kg/m³ (lb/ft³).

V_i = Average volume flow rate of waste entering the treatment process during each run i , m³/hr (ft³/hr).

C_i = Average concentration of benzene in the waste stream entering the treatment process during each run i , ppmw.

n = Number of runs.

10^6 = Conversion factor for ppmw.

(4) The mass flow rate of benzene exiting the treatment process (E_a) shall be determined by computing the product of the flow rate of the waste stream exiting the treatment process, as determined by the outlet flow meter or the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling and analytical procedures specified in paragraph (c)(2) or (c)(3) of this section. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over the same 3-hour period at which the mass flow rate of benzene entering the treatment process is determined. The mass flow rate of benzene exiting the treatment process is calculated as follows:

$$E_a = \frac{K}{n \times 10^6} \left[\sum_{i=1}^n V_i C_i \right]$$

Where:

E_a = Mass flow rate of benzene exiting the treatment process, kg/hr (lb/hr).

K = Density of the waste stream, kg/m³ (lb/ft³).

V_i = Average volume flow rate of waste exiting the treatment process during each run i , m³/hr (ft³/hr).

C_i = Average concentration of benzene in the waste stream exiting the treatment process during each run i , ppmw.

n = Number of runs.

10^6 = Conversion factor for ppmw.

(f) An owner or operator using performance tests to demonstrate compliance of a treatment process with §61.348(a)(1)(iii) of this subpart shall determine the benzene destruction efficiency for the combustion unit by the following procedure:

(1) The test shall be conducted under conditions that exist when the combustion unit is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information necessary to document the operating conditions during the test.

(2) All testing equipment shall be prepared and installed as specified in the appropriate test methods.

(3) The mass flow rate of benzene entering the combustion unit shall be determined by computing the product of the flow rate of the waste stream entering the combustion unit, as determined by the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling procedures in paragraph (c)(2) or (c)(3) of this section. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over a 3-hour period. The mass flow rate of benzene into the combustion unit is calculated as follows:

$$E_b = \frac{K}{n \times 10^6} \left[\sum_{i=1}^n V_i C_i \right]$$

Where:

E_b = Mass flow rate of benzene entering the combustion unit, kg/hr (lb/hr).

K = Density of the waste stream, kg/m³ (lb/ft³).

V_i = Average volume flow rate of waste entering the combustion unit during each run i , m³/hr (ft³/hr).

C_i = Average concentration of benzene in the waste stream entering the combustion unit during each run i , ppmw.

n = Number of runs.

10^6 = Conversion factor for ppmw.

(4) The mass flow rate of benzene exiting the combustion unit exhaust stack shall be determined as follows:

(i) The time period for the test shall not be less than 3 hours during which at least 3 stack gas samples are collected and be the same time period at which the mass flow rate of benzene entering the treatment process is determined. Each sample shall be collected over a 1-hour period

(e.g., in a tedlar bag) to represent a time-integrated composite sample and each 1-hour period shall correspond to the periods when the waste feed is sampled.

(ii) A run shall consist of a 1-hour period during the test. For each run:

(A) The reading from each measurement shall be recorded;

(B) The volume exhausted shall be determined using Method 2, 2A, 2C, or 2D from appendix A of 40 CFR part 60, as appropriate.

(C) The average benzene concentration in the exhaust downstream of the combustion unit shall be determined using Method 18 from appendix A of 40 CFR part 60.

(iii) The mass of benzene emitted during each run shall be calculated as follows:

$$M_i = D_b VC(10^{-6})$$

Where:

M_i = Mass of benzene emitted during run i, kg (lb).

V = Volume of air-vapor mixture exhausted at standard conditions, m^3 (ft^3).

C = Concentration of benzene measured in the exhaust, ppmv.

D_b = Density of benzene, $3.24 \text{ kg}/m^3$ ($0.202 \text{ lb}/ft^3$).

10^{-6} = Conversion factor for ppmv.

(iv) The benzene mass emission rate in the exhaust shall be calculated as follows:

$$E_a = [\sum_{i=1}^n M_i] / T$$

Where:

E_a = Mass flow rate of benzene emitted from the combustion unit, kg/hr (lb/hr).

M_i = Mass of benzene emitted from the combustion unit during run i, kg (lb).

T = Total time of all runs, hr.

n = Number of runs.

(5) The benzene destruction efficiency for the combustion unit shall be calculated as follows:

$$R = \frac{E_b - E_a}{E_b} \times 100$$

Where:

R = Benzene destruction efficiency for the combustion unit, percent.

E_b = Mass flow rate of benzene entering the combustion unit, kg/hr (lb/hr).

E_a = Mass flow rate of benzene emitted from the combustion unit, kg/hr (lb/hr).

(g) An owner or operator using performance tests to demonstrate compliance of a wastewater treatment system unit with §61.348(b) shall measure the flow-weighted annual average benzene concentration of the wastewater stream where the waste stream enters an exempt waste management unit by collecting and analyzing a minimum of three representative samples of the waste stream using the procedures in paragraph (c)(3) of this section. The test shall be conducted under conditions that exist when the wastewater treatment system is operating at the highest inlet wastewater stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information as is necessary to document the operating conditions during the test.

(h) An owner or operator shall test equipment for compliance with no detectable emissions as required in §§61.343 through 61.347, and §61.349 of this subpart in accordance with the following requirements:

(1) Monitoring shall comply with Method 21 from appendix A of 40 CFR part 60.

- (2) The detection instrument shall meet the performance criteria of Method 21.
- (3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21.
- (4) Calibration gases shall be:
- (i) Zero air (less than 10 ppm of hydrocarbon in air); and
 - (ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.
- (5) The background level shall be determined as set forth in Method 21.
- (6) The instrument probe shall be traversed around all potential leak interfaces as close as possible to the interface as described in Method 21.
- (7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared to 500 ppm for determining compliance.
- (i) An owner or operator using a performance test to demonstrate compliance of a control device with either the organic reduction efficiency requirement or the benzene reduction efficiency requirement specified under §61.349(a)(2) shall use the following procedures:
- (1) The test shall be conducted under conditions that exist when the waste management unit vented to the control device is operating at the highest load or capacity level expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The owner or operator shall record all process information necessary to document the operating conditions during the test.
 - (2) Sampling sites shall be selected using Method 1 or 1A from appendix A of 40 CFR part 60, as appropriate.
 - (3) The mass flow rate of either the organics or benzene entering and exiting the control device shall be determined as follows:
 - (i) The time period for the test shall not be less than 3 hours during which at least 3 stack gas samples are collected. Samples of the vent stream entering and exiting the control device shall be collected during the same time period. Each sample shall be collected over a 1-hour period (e.g., in a tedlar bag) to represent a time-integrated composite sample.
 - (ii) A run shall consist of a 1-hour period during the test. For each run:
 - (A) The reading from each measurement shall be recorded;
 - (B) The volume exhausted shall be determined using Method 2, 2A, 2C, or 2D from appendix A of 40 CFR part 60, as appropriate;
 - (C) The organic concentration or the benzene concentration, as appropriate, in the vent stream entering and exiting the control shall be determined using Method 18 from appendix A of 40 CFR part 60.
 - (iii) The mass of organics or benzene entering and exiting the control device during each run shall be calculated as follows:

$$M_{aj} = \frac{K_1 V_{aj}}{10^6} \left(\sum_{i=1}^n C_{ai} MW_i \right)$$

$$M_{bj} = \frac{K_1 V_{bj}}{10^6} \left(\sum_{i=1}^n C_{bi} MW_i \right)$$

where:

M_{aj} = Mass of organics or benzene in the vent stream entering the control device during run j, kg (lb).

M_{bj} = Mass of organics or benzene in the vent stream exiting the control device during run j, kg (lb).

V_{aj} = Volume of vent stream entering the control device during run j, at standard conditions, m³ (ft³).

V_{bj} = Volume of vent stream exiting the control device during run j, at standard conditions, m³ (ft³).

C_{ai} = Organic concentration of compound i or the benzene concentration measured in the vent stream entering the control device as determined by Method 18, ppm by volume on a dry basis.

C_{bi} = Organic concentration of compound i or the benzene concentration measured in the vent stream exiting the control device as determined by Method 18, ppm by volume on a dry basis.

MW_i = Molecular weight of organic compound i in the vent stream, or the molecular weight of benzene, kg/kg-mol (lb/lb-mole).

n = Number of organic compounds in the vent stream; if benzene reduction efficiency is being demonstrated, then $n=1$.

K_l = Conversion factor for molar volume at standard conditions (293 K and 760 mm Hg (527 R and 14.7 psia)) = 0.0416 kg-mol/m³ (0.00118 lb-mol/ft³)

10^6 = Conversion factor for ppmv.

(iv) The mass flow rate of organics or benzene entering and exiting the control device shall be calculated as follows:

$$E_a = \left(\sum_{j=1}^n M_{aj} \right) / T$$

$$E_b = \left(\sum_{j=1}^n M_{bj} \right) / T$$

Where:

E_a = Mass flow rate of organics or benzene entering the control device, kg/hr (lb/hr).

E_b = Mass flow rate of organics or benzene exiting the control device, kg/hr (lb/hr).

M_{aj} = Mass of organics or benzene in the vent stream entering the control device during run j, kg (lb).

M_{bj} = Mass of organics or benzene in the vent stream exiting the control device during run j, kg (lb).

T = Total time of all runs, hr.

n = Number of runs.

(4) The organic reduction efficiency or the benzene reduction efficiency for the control device shall be calculated as follows:

$$R = \frac{E_a - E_b}{E_a} \times 100$$

Where:

R = Total organic reduction of efficiency or benzene reduction efficiency for the control device, percent.

E_b = Mass flow rate of organics or benzene entering the control device, kg/hr (lb/hr).

E_a = Mass flow rate of organic or benzene emitted from the control device, kg/hr (lb/hr).

(j) An owner or operator shall determine the benzene quantity for the purposes of the calculation required by §61.342 (c)(3)(ii)(B) according to the provisions of paragraph (a) of this section, except that the procedures in paragraph (a) of this section shall also apply to wastes with a water content of 10 percent or less.

(k) An owner or operator shall determine the benzene quantity for the purposes of the calculation required by §61.342(e)(2) by the following procedure:

(1) For each waste stream that is not controlled for air emissions in accordance with §61.343, 61.344, 61.345, 61.346, 61.347, or 61.348(a), as applicable to the waste management unit that manages the waste, the benzene quantity shall be determined as specified in paragraph (a) of this section, except that paragraph (b)(4) of this section shall not apply, i.e., the waste quantity for process unit turnaround waste is not annualized but shall be included in the determination of benzene quantity for the year in which the waste is generated for the purposes of the calculation required by §61.342(e)(2).

(2) For each waste stream that is controlled for air emissions in accordance with §61.343, 61.344, 61.345, 61.346, 61.347, or 61.348(a), as applicable to the waste management unit that manages the waste, the determination of annual waste quantity and flow-weighted annual average benzene concentration shall be made at the first applicable location as described in paragraphs (k)(2)(i), (k)(2)(ii), and (k)(2)(iii) of this section and prior to any reduction of benzene concentration through volatilization of the benzene, using the methods given in (k)(2)(iv) and (k)(2)(v) of this section.

(i) Where the waste stream enters the first waste management unit not complying with §§61.343, 61.344, 61.345, 61.346, 61.347, and 61.348(a) that are applicable to the waste management unit,

(ii) For each waste stream that is managed or treated only in compliance with §§61.343 through 61.348(a) up to the point of final direct discharge from the facility, the determination of benzene quantity shall be prior to any reduction of benzene concentration through volatilization of the benzene, or

(iii) For wastes managed in units controlled for air emissions in accordance with §§61.343, 61.344, 61.345, 61.346, 61.347, and 61.348(a), and then transferred offsite, facilities shall use the first applicable offsite location as described in paragraphs (k)(2)(i) and (k)(2)(ii) of this section if they have documentation from the offsite facility of the benzene quantity at this location. Facilities without this documentation for offsite wastes shall use the benzene quantity determined at the point where the transferred waste leaves the facility.

(iv) Annual waste quantity shall be determined using the procedures in paragraphs (b)(5), (6), or (7) of this section, and

(v) The flow-weighted annual average benzene concentration shall be determined using the procedures in paragraphs (c)(2) or (3) of this section.

(3) The benzene quantity in a waste stream that is generated less than one time per year, including process unit turnaround waste, shall be included in the determination of benzene quantity as determined in paragraph (k)(6) of this section for the year in which the waste is generated. The benzene quantity in this waste stream shall not be annualized or averaged over the time interval between the activities that resulted in generation of the waste for purposes of determining benzene quantity as determined in paragraph (k)(6) of this section.

(4) The benzene in waste entering an enhanced biodegradation unit, as defined in §61.348(b)(2)(ii)(B), shall not be included in the determination of benzene quantity, determined in paragraph (k)(6) of this section, if the following conditions are met:

(i) The benzene concentration for each waste stream entering the enhanced biodegradation unit is less than 10 ppmw on a flow-weighted annual average basis, and

(ii) All prior waste management units managing the waste comply with §§61.343, 61.344, 61.345, 61.346, 61.347 and 61.348(a).

(5) The benzene quantity for each waste stream in paragraph (k)(2) of this section shall be determined by multiplying the annual waste quantity of each waste stream times its flow-weighted annual average benzene concentration.

(6) The total benzene quantity for the purposes of the calculation required by §61.342(e)(2) shall be determined by adding together the benzene quantities determined in paragraphs (k)(1) and (k)(5) of this section for each applicable waste stream.

(7) If the benzene quantity determined in paragraph (6) of this section exceeds 6.0 Mg/yr (6.6 ton/yr) only because of multiple counting of the benzene quantity for a waste stream, the owner or operator may use the following procedures for the purposes of the calculation required by §61.342(e)(2):

(i) Determine which waste management units are involved in the multiple counting of benzene;

(ii) Determine the quantity of benzene that is emitted, recovered, or removed from the affected units identified in paragraph (k)(7)(i) of this section, or destroyed in the units if applicable, using either direct measurements or the best available estimation techniques developed or approved by the Administrator.

(iii) Adjust the benzene quantity to eliminate the multiple counting of benzene based on the results from paragraph (k)(7)(ii) of this section and determine the total benzene quantity for the purposes of the calculation required by §61.342(e)(2).

(iv) Submit in the annual report required under §61.357(a) a description of the methods used and the resulting calculations for the alternative procedure under paragraph (k)(7) of this section, the benzene quantity determination from paragraph (k)(6) of this section, and the adjusted benzene quantity determination from paragraph (k)(7)(iii) of this section.

§ 61.356 Recordkeeping requirements.

(a) Each owner or operator of a facility subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section. Each record shall be maintained in a readily accessible location at the facility site for a period not less than two years from the date the information is recorded unless otherwise specified.

(b) Each owner or operator shall maintain records that identify each waste stream at the facility subject to this subpart, and indicate whether or not the waste stream is controlled for benzene emissions in accordance with this subpart. In addition the owner or operator shall maintain the following records:

(1) For each waste stream not controlled for benzene emissions in accordance with this subpart, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

(2) For each waste stream exempt from §61.342(c)(1) in accordance with §61.342(c)(3), the records shall include:

(i) All measurements, calculations, and other documentation used to determine that the continuous flow of process wastewater is less than 0.02 liters (0.005 gallons) per minute or the annual waste quantity of process wastewater is less than 10 Mg/yr (11 ton/yr) in accordance with §61.342(c)(3)(i), or

(ii) All measurements, calculations, and other documentation used to determine that the sum of the total annual benzene quantity in all exempt waste streams does not exceed 2.0 Mg/yr (2.2 ton/yr) in accordance with §61.342(c)(3)(ii).

(3) For each facility where process wastewater streams are controlled for benzene emissions in accordance with §61.342(d) of this subpart, the records shall include for each treated process wastewater stream all measurements, calculations, and other documentation used to determine the annual benzene quantity in the process wastewater stream exiting the treatment process.

(4) For each facility where waste streams are controlled for benzene emissions in accordance with §61.342(e), the records shall include for each waste stream all measurements, including the locations of the measurements, calculations, and other documentation used to determine that the total benzene quantity does not exceed 6.0 Mg/yr (6.6 ton/yr).

(5) For each facility where the annual waste quantity for process unit turnaround waste is determined in accordance with §61.355(b)(5), the records shall include all test results, measurements, calculations, and other documentation used to determine the following information: identification of each process unit at the facility that undergoes turnarounds, the date of the most recent turnaround for each process unit, identification of each process unit turnaround waste, the water content of each process unit turnaround waste, the annual waste quantity determined in accordance with §61.355(b)(5), the range of benzene concentrations in the waste, the annual average flow-weighted benzene concentration of the waste, and the annual benzene quantity calculated in accordance with §61.355(a)(1)(iii) of this section.

(6) For each facility where wastewater streams are controlled for benzene emissions in accordance with §61.348(b)(2), the records shall include all measurements, calculations, and other documentation used to determine the annual benzene content of the waste streams and the total annual benzene quantity contained in all waste streams managed or treated in exempt waste management units.

(c) An owner or operator transferring waste off-site to another facility for treatment in accordance with §61.342(f) shall maintain documentation for each offsite waste shipment that includes the following information: Date waste is shipped offsite, quantity of waste shipped offsite, name and address of the facility receiving the waste, and a copy of the notice sent with the waste shipment.

(d) An owner or operator using control equipment in accordance with §§61.343 through 61.347 shall maintain engineering design documentation for all control equipment that is installed on the waste management unit. The documentation shall be retained for the life of the control equipment. If a control device is used, then the owner or operator shall maintain the control device records required by paragraph (f) of this section.

(e) An owner or operator using a treatment process or wastewater treatment system unit in accordance with §61.348 of this subpart shall maintain the following records. The documentation shall be retained for the life of the unit.

(1) A statement signed and dated by the owner or operator certifying that the unit is designed to operate at the documented performance level when the waste stream entering the unit is at the highest waste stream flow rate and benzene content expected to occur.

(2) If engineering calculations are used to determine treatment process or wastewater treatment system unit performance, then the owner or operator shall maintain the complete design analysis for the unit. The design analysis shall include for example the following information: Design specifications, drawings, schematics, piping and instrumentation diagrams, and other documentation necessary to demonstrate the unit performance.

(3) If performance tests are used to determine treatment process or wastewater treatment system unit performance, then the owner or operator shall maintain all test information necessary to demonstrate the unit performance.

(i) A description of the unit including the following information: type of treatment process; manufacturer name and model number; and for each waste stream entering and exiting the unit, the waste stream type (e.g., process wastewater, sludge, slurry, etc.), and the design flow rate and benzene content.

(ii) Documentation describing the test protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the unit performance. The description of the test protocol shall include the following information: sampling locations, sampling method, sampling frequency, and analytical procedures used for sample analysis.

(iii) Records of unit operating conditions during each test run including all key process parameters.

(iv) All test results.

(4) If a control device is used, then the owner or operator shall maintain the control device records required by paragraph (f) of this section.

(f) An owner or operator using a closed-vent system and control device in accordance with §61.349 of this subpart shall maintain the following records. The documentation shall be retained for the life of the control device.

(1) A statement signed and dated by the owner or operator certifying that the closed-vent system and control device is designed to operate at the documented performance level when the waste management unit vented to the control device is or would be operating at the highest load or capacity expected to occur.

(2) If engineering calculations are used to determine control device performance in accordance with §61.349(c), then a design analysis for the control device that includes for example:

(i) Specifications, drawings, schematics, and piping and instrumentation diagrams prepared by the owner or operator, or the control device manufacturer or vendor that describe the control device design based on acceptable engineering texts. The design analysis shall address the following vent stream characteristics and control device operating parameters:

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the flame zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in 40 CFR 60.18.

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level or the design outlet benzene

concentration level, design average temperature of the condenser exhaust vent stream, and the design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system that regenerates the carbon bed directly on-site in the control device such as a fixed-bed adsorber, the design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level or the design exhaust vent stream benzene concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system that does not regenerate the carbon bed directly on-site in the control device, such as a carbon canister, the design analysis shall consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level or the design exhaust vent stream benzene concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(H) For a control device subject to the requirements of §61.349(a)(2)(iv), the design analysis shall consider the vent stream composition, constituent concentration, and flow rate. The design analysis shall also include all of the information submitted under §61.349 (a)(2)(iv).

(ii) [Reserved]

(3) If performance tests are used to determine control device performance in accordance with §61.349(c) of this subpart:

(i) A description of how it is determined that the test is conducted when the waste management unit or treatment process is operating at the highest load or capacity level. This description shall include the estimated or design flow rate and organic content of each vent stream and definition of the acceptable operating ranges of key process and control parameters during the test program.

(ii) A description of the control device including the type of control device, control device manufacturer's name and model number, control device dimensions, capacity, and construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(iv) All test results.

(g) An owner or operator shall maintain a record for each visual inspection required by §§61.343 through 61.347 of this subpart that identifies a problem (such as a broken seal, gap or other problem) which could result in benzene emissions. The record shall include the date of the inspection, waste management unit and control equipment location where the problem is identified, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed.

(h) An owner or operator shall maintain a record for each test of no detectable emissions required by §§61.343 through 61.347 and §61.349 of this subpart. The record shall include the following information: date the test is performed, background level measured during test, and maximum concentration indicated by the instrument reading measured for each potential leak interface. If

detectable emissions are measured at a leak interface, then the record shall also include the waste management unit, control equipment, and leak interface location where detectable emissions were measured, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed.

(i) For each treatment process and wastewater treatment system unit operated to comply with §61.348, the owner or operator shall maintain documentation that includes the following information regarding the unit operation:

(1) Dates of startup and shutdown of the unit.

(2) If measurements of waste stream benzene concentration are performed in accordance with §61.354(a)(1) of this subpart, the owner or operator shall maintain records that include date each test is performed and all test results.

(3) If a process parameter is continuously monitored in accordance with §61.354(a)(2) of this subpart, the owner or operator shall maintain records that include a description of the operating parameter (or parameters) to be monitored to ensure that the unit will be operated in conformance with these standards and the unit's design specifications, and an explanation of the criteria used for selection of that parameter (or parameters). This documentation shall be kept for the life of the unit.

(4) If measurements of waste stream benzene concentration are performed in accordance with §61.354(b), the owner or operator shall maintain records that include the date each test is performed and all test results.

(5) Periods when the unit is not operated as designed.

(j) For each control device, the owner or operator shall maintain documentation that includes the following information regarding the control device operation:

(1) Dates of startup and shutdown of the closed-vent system and control device.

(2) A description of the operating parameter (or parameters) to be monitored to ensure that the control device will be operated in conformance with these standards and the control device's design specifications and an explanation of the criteria used for selection of that parameter (or parameters). This documentation shall be kept for the life of the control device.

(3) Periods when the closed-vent system and control device are not operated as designed including all periods and the duration when:

(i) Any valve car-seal or closure mechanism required under §61.349(a)(1)(ii) is broken or the by-pass line valve position has changed.

(ii) The flow monitoring devices required under §61.349(a)(1)(ii) indicate that vapors are not routed to the control device as required.

(4) If a thermal vapor incinerator is used, then the owner or operator shall maintain continuous records of the temperature of the gas stream in the combustion zone of the incinerator and records of all 3-hour periods of operation during which the average temperature of the gas stream in the combustion zone is more than 28 °C (50 °F) below the design combustion zone temperature.

(5) If a catalytic vapor incinerator is used, then the owner or operator shall maintain continuous records of the temperature of the gas stream both upstream and downstream of the catalyst bed of the incinerator, records of all 3-hour periods of operation during which the average temperature measured before the catalyst bed is more than 28 °C (50 °F) below the design gas stream temperature, and records of all 3-hour periods of operation during which the average temperature difference across the catalyst bed is less than 80 percent of the design temperature difference.

(6) If a boiler or process heater is used, then the owner or operator shall maintain records of each occurrence when there is a change in the location at which the vent stream is introduced into the flame zone as required by §61.349(a)(2)(i)(C). For a boiler or process heater having a design heat input capacity less than 44 MW (150×106 BTU/hr), the owner or operator shall maintain continuous records of the temperature of the gas stream in the combustion zone of the boiler or process heater and records of all 3-hour periods of operation during which the average temperature of the gas stream in the combustion zone is more than 28 °C (50 °F) below the design combustion zone temperature. For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW (150×106 BTU/hr), the owner or operator shall maintain continuous records of the parameter(s) monitored in accordance with the requirements of §61.354(c)(5).

(7) If a flare is used, then the owner or operator shall maintain continuous records of the flare pilot flame monitoring and records of all periods during which the pilot flame is absent.

(8) If a condenser is used, then the owner or operator shall maintain records from the monitoring device of the parameters selected to be monitored in accordance with §61.354(c)(6). If concentration of organics or concentration of benzene in the control device outlet gas stream is monitored, then the owner or operator shall record all 3-hour periods of operation during which the concentration of organics or the concentration of benzene in the exhaust stream is more than 20 percent greater than the design value. If the temperature of the condenser exhaust stream and coolant fluid is monitored, then the owner or operator shall record all 3-hour periods of operation during which the temperature of the condenser exhaust vent stream is more than 6 °C (11 °F) above the design average exhaust vent stream temperature, or the temperature of the coolant fluid exiting the condenser is more than 6 °C (11 °F) above the design average coolant fluid temperature at the condenser outlet.

(9) If a carbon adsorber is used, then the owner or operator shall maintain records from the monitoring device of the concentration of organics or the concentration of benzene in the control device outlet gas stream. If the concentration of organics or the concentration of benzene in the control device outlet gas stream is monitored, then the owner or operator shall record all 3-hour periods of operation during which the concentration of organics or the concentration of benzene in the exhaust stream is more than 20 percent greater than the design value. If the carbon bed regeneration interval is monitored, then the owner or operator shall record each occurrence when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time.

(10) If a carbon adsorber that is not regenerated directly on site in the control device is used, then the owner or operator shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time when the existing carbon in the control device is replaced with fresh carbon.

(11) If an alternative operational or process parameter is monitored for a control device, as allowed in §61.354(e) of this subpart, then the owner or operator shall maintain records of the continuously monitored parameter, including periods when the device is not operated as designed.

(12) If a control device subject to the requirements of §61.349(a)(2)(iv) is used, then the owner or operator shall maintain records of the parameters that are monitored and each occurrence when the parameters monitored are outside the range of values specified in §61.349(a)(2)(iv)(C), or other records as specified by the Administrator.

(k) An owner or operator who elects to install and operate the control equipment in §61.351 of this subpart shall comply with the recordkeeping requirements in 40 CFR 60.115b.

(l) An owner or operator who elects to install and operate the control equipment in §61.352 of this subpart shall maintain records of the following:

(1) The date, location, and corrective action for each visual inspection required by 40 CFR 60.693–2(a)(5), during which a broken seal, gap, or other problem is identified that could result in benzene emissions.

(2) Results of the seal gap measurements required by 40 CFR 60.693–2(a).

(m) If a system is used for emission control that is maintained at a pressure less than atmospheric pressure with openings to provide dilution air, then the owner or operator shall maintain records of the monitoring device and records of all periods during which the pressure in the unit is operated at a pressure that is equal to or greater than atmospheric pressure.

(n) Each owner or operator using a total enclosure to comply with control requirements for tanks in §61.343 or the control requirements for containers in §61.345 must keep the records required in paragraphs (n)(1) and (2) of this section. Owners or operators may use records as required in 40 CFR 264.1089(b)(2)(iv) or 40 CFR 265.1090(b)(2)(iv) for a tank or as required in 40 CFR 264.1089(d)(1) or 40 CFR 265.1090(d)(1) for a container to meet the recordkeeping requirement in paragraph (n)(1) of this section. The owner or operator must make the records of each verification of a total enclosure available for inspection upon request.

(1) Records of the most recent set of calculations and measurements performed to verify that the enclosure meets the criteria of a permanent total enclosure as specified in “Procedure T—Criteria for and Verification of a Permanent or Temporary Total Enclosure” in 40 CFR 52.741, appendix B;

(2) Records required for a closed-vent system and control device according to the requirements in paragraphs (d) (f), and (j) of this section.

§ 61.357 Reporting requirements.

(a) Each owner or operator of a chemical plant, petroleum refinery, coke by-product recovery plant, and any facility managing wastes from these industries shall submit to the Administrator within 90 days after January 7, 1993, or by the initial startup for a new source with an initial startup after the effective date, a report that summarizes the regulatory status of each waste stream subject to §61.342 and is determined by the procedures specified in §61.355(c) to contain benzene. Each owner or operator subject to this subpart who has no benzene onsite in wastes, products, by-products, or intermediates shall submit an initial report that is a statement to this effect. For all other owners or operators subject to this subpart, the report shall include the following information:

(1) Total annual benzene quantity from facility waste determined in accordance with §61.355(a) of this subpart.

(2) A table identifying each waste stream and whether or not the waste stream will be controlled for benzene emissions in accordance with the requirements of this subpart.

(3) For each waste stream identified as not being controlled for benzene emissions in accordance with the requirements of this subpart the following information shall be added to the table:

(i) Whether or not the water content of the waste stream is greater than 10 percent;

(ii) Whether or not the waste stream is a process wastewater stream, product tank drawdown, or landfill leachate;

- (iii) Annual waste quantity for the waste stream;
 - (iv) Range of benzene concentrations for the waste stream;
 - (v) Annual average flow-weighted benzene concentration for the waste stream; and
 - (vi) Annual benzene quantity for the waste stream.
- (4) The information required in paragraphs (a) (1), (2), and (3) of this section should represent the waste stream characteristics based on current configuration and operating conditions. An owner or operator only needs to list in the report those waste streams that contact materials containing benzene. The report does not need to include a description of the controls to be installed to comply with the standard or other information required in §61.10(a).
- (b) If the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall submit to the Administrator a report that updates the information listed in paragraphs (a)(1) through (a)(3) of this section whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more.
- (c) If the total annual benzene quantity from facility waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall submit to the Administrator a report that updates the information listed in paragraphs (a)(1) through (a)(3) of this section. The report shall be submitted annually and whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more. If the information in the annual report required by paragraphs (a)(1) through (a)(3) of this section is not changed in the following year, the owner or operator may submit a statement to that effect.
- (d) If the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), then the owner or operator shall submit to the Administrator the following reports:
- (1) Within 90 days after January 7, 1993, unless a waiver of compliance under §61.11 of this part is granted, or by the date of initial startup for a new source with an initial startup after the effective date, a certification that the equipment necessary to comply with these standards has been installed and that the required initial inspections or tests have been carried out in accordance with this subpart. If a waiver of compliance is granted under §61.11, the certification of equipment necessary to comply with these standards shall be submitted by the date the waiver of compliance expires.
 - (2) Beginning on the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit annually to the Administrator a report that updates the information listed in paragraphs (a)(1) through (a)(3) of this section. If the information in the annual report required by paragraphs (a)(1) through (a)(3) of this section is not changed in the following year, the owner or operator may submit a statement to that effect.
 - (3) If an owner or operator elects to comply with the requirements of §61.342(c)(3)(ii), then the report required by paragraph (d)(2) of this section shall include a table identifying each waste stream chosen for exemption and the total annual benzene quantity in these exempted streams.
 - (4) If an owner or operator elects to comply with the alternative requirements of §61.342(d) of this subpart, then he shall include in the report required by paragraph (d)(2) of this section a table presenting the following information for each process wastewater stream:
 - (i) Whether or not the process wastewater stream is being controlled for benzene emissions in accordance with the requirements of this subpart;

(ii) For each process wastewater stream identified as not being controlled for benzene emissions in accordance with the requirements of this subpart, the table shall report the following information for the process wastewater stream as determined at the point of waste generation: annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity;

(iii) For each process wastewater stream identified as being controlled for benzene emissions in accordance with the requirements of this subpart, the table shall report the following information for the process wastewater stream as determined at the exit to the treatment process: Annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

(5) If an owner or operator elects to comply with the alternative requirements of §61.342(e), then the report required by paragraph (d)(2) of this section shall include a table presenting the following information for each waste stream:

(i) For each waste stream identified as not being controlled for benzene emissions in accordance with the requirements of this subpart; the table shall report the following information for the waste stream as determined at the point of waste generation: annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity;

(ii) For each waste stream identified as being controlled for benzene emissions in accordance with the requirements of this subpart; the table shall report the following information for the waste stream as determined at the applicable location described in §61.355(k)(2): Annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

(6) Beginning 3 months after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit quarterly to the Administrator a certification that all of the required inspections have been carried out in accordance with the requirements of this subpart.

(7) Beginning 3 months after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit a report quarterly to the Administrator that includes:

(i) If a treatment process or wastewater treatment system unit is monitored in accordance with §61.354(a)(1) of this subpart, then each period of operation during which the concentration of benzene in the monitored waste stream exiting the unit is equal to or greater than 10 ppmw.

(ii) If a treatment process or wastewater treatment system unit is monitored in accordance with §61.354(a)(2) of this subpart, then each 3-hour period of operation during which the average value of the monitored parameter is outside the range of acceptable values or during which the unit is not operating as designed.

(iii) If a treatment process or wastewater treatment system unit is monitored in accordance with §61.354(b), then each period of operation during which the flow-weighted annual average concentration of benzene in the monitored waste stream entering the unit is equal to or greater than 10 ppmw and/or the total annual benzene quantity is equal to or greater than 1.0 mg/yr.

(iv) For a control device monitored in accordance with §61.354(c) of this subpart, each period of operation monitored during which any of the following conditions occur, as applicable to the control device:

- (A) Each 3-hour period of operation during which the average temperature of the gas stream in the combustion zone of a thermal vapor incinerator, as measured by the temperature monitoring device, is more than 28 °C (50 °F) below the design combustion zone temperature.
- (B) Each 3-hour period of operation during which the average temperature of the gas stream immediately before the catalyst bed of a catalytic vapor incinerator, as measured by the temperature monitoring device, is more than 28 °C (50 °F) below the design gas stream temperature, and any 3-hour period during which the average temperature difference across the catalyst bed (i.e., the difference between the temperatures of the gas stream immediately before and after the catalyst bed), as measured by the temperature monitoring device, is less than 80 percent of the design temperature difference.
- (C) Each 3-hour period of operation during which the average temperature of the gas stream in the combustion zone of a boiler or process heater having a design heat input capacity less than 44 MW (150×106 BTU/hr), as measured by the temperature monitoring device, is more than 28 °C (50 °F) below the design combustion zone temperature.
- (D) Each 3-hour period of operation during which the average concentration of organics or the average concentration of benzene in the exhaust gases from a carbon adsorber, condenser, or other vapor recovery system is more than 20 percent greater than the design concentration level of organics or benzene in the exhaust gas.
- (E) Each 3-hour period of operation during which the temperature of the condenser exhaust vent stream is more than 6 °C (11 °F) above the design average exhaust vent stream temperature, or the temperature of the coolant fluid exiting the condenser is more than 6 °C (11 °F) above the design average coolant fluid temperature at the condenser outlet.
- (F) Each period in which the pilot flame of a flare is absent.
- (G) Each occurrence when there is a change in the location at which the vent stream is introduced into the flame zone of a boiler or process heater as required by §61.349(a)(2)(i)(C) of this subpart.
- (H) Each occurrence when the carbon in a carbon adsorber system that is regenerated directly on site in the control device is not regenerated at the predetermined carbon bed regeneration time.
- (I) Each occurrence when the carbon in a carbon adsorber system that is not regenerated directly on site in the control device is not replaced at the predetermined interval specified in §61.354(c) of this subpart.
- (J) Each 3-hour period of operation during which the parameters monitored are outside the range of values specified in §61.349(a)(2)(iv)(C), or any other periods specified by the Administrator for a control device subject to the requirements of §61.349(a)(2)(iv).
- (v) For a cover and closed-vent system monitored in accordance with §61.354(g), the owner or operator shall submit a report quarterly to the Administrator that identifies any period in which the pressure in the waste management unit is equal to or greater than atmospheric pressure.
- (8) Beginning one year after the date that the equipment necessary to comply with these standards has been certified in accordance with paragraph (d)(1) of this section, the owner or operator shall submit annually to the Administrator a report that summarizes all inspections required by §§61.342 through 61.354 during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions is identified, including information about the repairs or corrective action taken.
- (e) An owner or operator electing to comply with the provisions of §§61.351 or 61.352 of this subpart shall notify the Administrator of the alternative standard selected in the report required under §61.07 or §61.10 of this part.

(f) An owner or operator who elects to install and operate the control equipment in §61.351 of this subpart shall comply with the reporting requirements in 40 CFR 60.115b.

(g) An owner or operator who elects to install and operate the control equipment in §61.352 of this subpart shall submit initial and quarterly reports that identify all seal gap measurements, as required in 40 CFR 60.693–2(a), that are outside the prescribed limits.

X. Appendix F

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart YY—Generic Maximum Achievable Control Technology Standards

(The following selected sections and paragraphs of subpart YY are listed here for convenience.
Refer to the whole subpart for complete and detailed requirements.)

§ 63.1100 Applicability.

(a) *General.* This subpart applies to source categories and affected sources specified in §63.1103(a) through (h). The affected emission points, by source category, are summarized in table 1 of this section. This table also delineates the section and paragraph of the rule that directs an owner or operator of an affected source to source category-specific control, monitoring, recordkeeping, and reporting requirements.

Table 1 to § 63.1100(a) Source Category MACT ^a Applicability

Source category	Storage vessels	Process vents	Transfer racks	Equipment leaks	Wastewater streams	Other	Source category MACT requirements
Acetal Resins Production	Yes	Yes	No	Yes	Yes	Yes	§63.1103(a)
Acrylic and Modacrylic Fibers Production	Yes	Yes	No	Yes	Yes	Yes ^b	§63.1103(b)
Carbon Black Production	No	Yes	No	No	No	No	§63.1103(f)
Cyanide Chemicals Manufacturing	Yes	Yes	Yes	Yes	Yes	No	§63.1103(g)
Ethylene Production	Yes	Yes	Yes	Yes	Yes	Yes ^c	§63.1103(e)
Hydrogen Fluoride Production	Yes	Yes	Yes	Yes	No	No	§63.1103(c)
Polycarbonate Production	Yes	Yes	No	Yes	Yes	No	§63.1103(d)
Spandex Production	Yes	Yes	No	No	No	Yes ^d	§63.1103(h)

^a Maximum achievable control technology.

^b Fiber spinning lines using spinning solution or suspension containing acrylonitrile.

^c Heat exchange systems as defined in § 63.1103(e)(2).

^d Fiber spinning lines.

(b) *Subpart A requirements.* The following provisions of subpart A of this part (General Provisions), §§63.1 through 63.5, and §§63.12 through 63.15, apply to owners or operators of affected sources subject to this subpart.

(c) *Research and development facilities.* The provisions of this subpart do not apply to research and development facilities, consistent with section 112(b)(7) of the Act.

(d) *Primary product determination and applicability.* The primary product of a process unit shall be determined according to the procedures specified in paragraphs (d)(1) and (2) of this section. Paragraphs (d)(3), (4), and (5) of this section discuss compliance for those process units operated as flexible operation units.

(1) If a process unit only manufactures one product, then that product shall represent the primary product of the process unit.

(2) If a process unit is designed and operated as a flexible operation unit, the primary product shall be determined as specified in paragraphs (d)(2)(i) or (ii) of this section based on the anticipated operations for the 5 years following the promulgation date for existing affected sources and for the first 5 years after initial startup for new affected sources.

(i) If the flexible operation unit will manufacture one product for the greatest percentage of operating time over the five-year period, then that product shall represent the primary product of the flexible operation unit.

(ii) If the flexible operation unit will manufacture multiple products equally based on operating time, then the product with the greatest production on a mass basis over the five-year period shall represent the primary product of the flexible operation unit.

(3) Once the primary product of a process unit has been determined to be a product produced by a source category subject to this subpart, the owner or operator of the affected source shall comply with the standards for the primary product production process unit.

(4) The determination of the primary product for a process unit, including the assessment of applicability of this subpart to process units that are designed and operated as flexible operation units, shall be reported in the Notification of Compliance Status report required by §63.1110(a)(4) when the primary product is determined to be a product produced by a source category subject to requirements under this subpart. The Notification of Compliance Status shall include the information specified in either paragraph (d)(4)(i) or (ii) of this section. If the primary product is determined to be something other than a product produced by a source category subject to requirements under this subpart, the owner or operator shall retain information, data, and analyses used to document the basis for the determination that the primary product is not produced by a source category subject to requirements under this subpart.

(i) If the process unit manufactures only one product subject to requirements under this subpart, the identity of that product.

(ii) If the process unit is designed and operated as a flexible operation unit, the information specified in paragraphs (d)(4)(ii)(A) and (B) of this section, as appropriate.

(A) The identity of the primary product.

(B) Information concerning operating time and/or production mass for each product that was used to make the determination of the primary product under paragraph (d)(2)(i) or (ii) of this section.

(5) When a flexible operation unit that is subject to this subpart is producing a product other than a product subject to this subpart, or is producing a product subject to this subpart that is not the primary product, the owner or operator shall comply with either paragraph (d)(5) (i) or (ii) of this section for each emission point.

(i) The owner or operator shall control emissions during the production of all products in accordance with the requirements for the production of the primary product. As appropriate, the owner or operator shall demonstrate that the parameter monitoring level established for the primary product is also appropriate for those periods when products other than the primary

product are being produced. Documentation of this demonstration shall be submitted in the Notification of Compliance Status report required by §63.1110(a)(4).

(ii) The owner or operator shall determine, for the production of each product, whether control is required in accordance with the applicable criteria for the primary product in §63.1103. If control is required, the owner or operator shall establish separate parameter monitoring levels, as appropriate, for the production of each product. The parameter monitoring levels developed shall be submitted in the Notification of Compliance Status report required by §63.1110(a)(4).

(e) *Storage vessel ownership determination.* To determine the process unit to which a storage vessel shall belong, the owner or operator shall sequentially follow the procedures specified in paragraphs (e)(1) through (8) of this section, stopping as soon as the determination is made.

(1) If a storage vessel is already subject to another subpart of this part on the date of promulgation for an affected source under the generic MACT, that storage vessel shall belong to the process unit subject to the other subpart.

(2) If a storage vessel is dedicated to a single process unit, the storage vessel shall belong to that process unit.

(3) If a storage vessel is shared among process units, then the storage vessel shall belong to that process unit located on the same plant site as the storage vessel that has the greatest input into or output from the storage vessel (i.e., the process unit has the predominant use of the storage vessel.)

(4) If predominant use cannot be determined for a storage vessel that is shared among process units and if only one of those process units is subject to this subpart, the storage vessel shall belong to that process unit.

(5) If predominant use cannot be determined for a storage vessel that is shared among process units and if more than one of the process units are subject to standards under this subpart that have different primary products, then the owner or operator shall assign the storage vessel to any one of the process units sharing the storage vessel.

(6) If the predominant use of a storage vessel varies from year to year, then predominant use shall be determined based on the utilization that occurred during the year preceding the date of promulgation of standards for an affected source under this subpart or based on the expected utilization for the 5 years following the promulgation date of standards for an affected source under this subpart for existing affected sources, whichever is more representative of the expected operations for that storage vessel, and based on the expected utilization for the 5 years after initial startup for new affected sources. The determination of predominant use shall be reported in the Notification of Compliance Status Report required by §63.1110(a)(4). If the predominant use changes, the redetermination of predominant use shall be reported in the next Periodic Report.

(7) If the storage vessel begins receiving material from (or sending material to) another process unit; ceases to receive material from (or send material to) a process unit; or if the applicability of this subpart to a storage vessel has been determined according to the provisions of paragraphs (e)(1) through (6) of this section and there is a significant change in the use of the storage vessel that could reasonably change the predominant use, the owner or operator shall reevaluate the applicability of this subpart to the storage vessel.

(8) Where a storage vessel is located at a major source that includes one or more process units that place material into, or receive materials from, the storage vessel, but the storage vessel is located in a tank farm, the applicability of this subpart shall be determined according to the provisions in paragraphs (e)(8)(i) through (iii) of this section.

- (i) The storage vessel may only be assigned to a process unit that utilizes the storage vessel and does not have an intervening storage vessel for that product (or raw material, as appropriate). With respect to any process unit, an intervening storage vessel means a storage vessel connected by hard-piping to the process unit and to the storage vessel in the tank farm so that product or raw material entering or leaving the process unit flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.
- (ii) If there is only one process unit at a major source that meets the criteria of paragraph (e)(8)(i) of this section with respect to a storage vessel, the storage vessel shall be assigned to that process unit.
- (iii) If there are two or more process units at the major source that meet the criteria of paragraph (e)(8)(i) of this section with respect to a storage vessel, the storage vessel shall be assigned to one of those process units according to the provisions of paragraph (e)(6) of this section. The predominant use shall be determined among only those process units that meet the criteria of paragraph (e)(8)(i) of this section.
- (f) *Recovery operation equipment ownership determination.* To determine the process unit to which recovery equipment shall belong, the owner or operator shall sequentially follow the procedures specified in paragraphs (f)(1) through (7) of this section, stopping as soon as the determination is made.
- (1) If recovery operation equipment is already subject to another subpart of this part on the date standards are promulgated for an affected source, that recovery operation equipment shall belong to the process unit subject to the other subpart.
- (2) If recovery operation equipment is used exclusively by a single process unit, the recovery operation shall belong to that process unit.
- (3) If recovery operation equipment is shared among process units, then the recovery operation equipment shall belong to that process unit that has the greatest input into or output from the recovery operation equipment (i.e., that process unit has the predominant use of the recovery operation equipment).
- (4) If predominant use cannot be determined for recovery operation equipment that is shared among process units and if one of those process units is a process unit subject to this subpart, the recovery operation equipment shall belong to the process unit subject to this subpart.
- (5) If predominant use cannot be determined for recovery operation equipment that is shared among process units and if more than one of the process units are process units that have different primary products and that are subject to this subpart, then the owner or operator shall assign the recovery operation equipment to any one of those process units.
- (6) If the predominant use of recovery operation equipment varies from year to year, then the predominant use shall be determined based on the utilization that occurred during the year preceding the promulgation date of standards for an affected source under this subpart or based on the expected utilization for the 5 years following the promulgation date for standards for an affected source under this subpart for existing affected sources, whichever is the more representative of the expected operations for the recovery operations equipment, and based on the expected utilization for the first 5 years after initial startup for new affected sources. This determination shall be reported in the Notification of Compliance Status Report required by §63.1110(a)(4). If the predominant use changes, the redetermination of predominant use shall be reported in the next Periodic Report.
- (7) If there is an unexpected change in the utilization of recovery operation equipment that could reasonably change the predominant use, the owner or operator shall redetermine to which

process unit the recovery operation belongs by reperforming the procedures specified in paragraphs (f)(2) through (6) of this section.

(g) *Overlap with other regulations.* Paragraphs (g)(1) through (6) of this section specify the applicability of this subpart YY emission point requirements when other rules may apply. Where subpart YY of this part allows an owner or operator an option to comply with one or another regulation to comply with subpart YY of this part, an owner or operator must report which regulation they choose to comply with in the Notification of Compliance Status report required by §63.1110(a)(4).

(1) *Overlap of subpart YY with other regulations for storage vessels.* (i) After the compliance dates specified in §63.1102, a storage vessel that must be controlled according to the requirements of this subpart and subpart G of this part is required to comply only with the storage vessel requirements of this subpart.

(ii) After the compliance dates specified in §63.1102, a storage vessel that must be controlled according to the requirements of this subpart and subpart Ka or Kb of 40 CFR part 60 is required to comply only with the storage vessel requirements of this subpart.

(2) *Overlap of subpart YY with other regulations for process vents.* (i) After the compliance dates specified in §63.1102, a process vent that must be controlled according to the requirements of this subpart and subpart G of this part is in compliance with this subpart if it complies with either set of requirements. The owner or operator must specify the rule with which they will comply in the Notification of Compliance Status report required by §63.1110(a)(4).

(ii) After the compliance dates specified in §63.1102, a process vent that must be controlled according to the requirements of this subpart and subpart III, RRR or NNN of 40 CFR part 60 is required to comply only with the process vent requirements of this subpart.

(3) *Overlap of subpart YY with other regulations for transfer racks.* After the compliance dates specified in §63.1102, a transfer rack that must be controlled according to the requirements this subpart and subpart G of this part is required to comply only with the transfer rack requirements of this subpart.

(4) *Overlap of subpart YY with other regulations for equipment leaks.* (i) After the compliance dates specified in §63.1102, equipment that must be controlled according to this subpart and 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart J or subpart V, is required only to comply with the equipment leak requirements of this subpart.

(ii) After the compliance dates specified in §63.1102, equipment that must be controlled according to this subpart and subpart H of this part is in compliance with the equipment leak requirements of this subpart if it complies with either set of requirements. The owner or operator must specify the rule with which they will comply in the Notification of Compliance Status report required by §63.1110(a)(4).

(5) *Overlap of subpart YY with other regulations for wastewater for source categories other than ethylene production.* (i) After the compliance dates specified in §63.1102 for an affected source subject to this subpart, a wastewater stream that is subject to the wastewater requirements of this subpart and the wastewater requirements of subparts F, G, and H of this part (collectively known as the “HON”) shall be deemed to be in compliance with the requirements of this subpart if it complies with either set of requirements. In any instance where a source subject to this subpart is colocated with a Synthetic Organic Chemical Manufacturing Industry (SOCMI) source, and a single wastewater treatment facility treats both Group 1 wastewaters and wastewater residuals from the source subject to this subpart and wastewaters from the SOCMI source, a certification by the treatment facility that they will manage and treat the waste in conformity with the specific

control requirements set forth in 40 CFR 63.133 through 63.147 will also be deemed sufficient to satisfy the certification requirements for wastewater treatment under this subpart.

(ii) After the compliance dates specified in §63.1102 for an affected source subject to this subpart, a wastewater stream that is subject to control requirements in the Benzene Waste NESHAP (subpart FF of part 61 of this chapter) and this subpart is required to comply with both rules.

(6) *Overlap of subpart YY with other regulations for waste for the ethylene production source category.* (i) After the compliance date specified in §63.1102, a waste stream that is conveyed, stored, or treated in a wastewater stream management unit, waste management unit, or wastewater treatment system that receives streams subject to both the control requirements of §63.1103(e)(3) for ethylene production sources and the provisions of §§63.133 through 63.147 shall comply as specified in paragraphs (g)(6)(i)(A) through (C) of this section. Compliance with the provisions of this paragraph (g)(6)(i) shall constitute compliance with the requirements of this subpart for that waste stream.

(A) Comply with the provisions in §§63.133 through 63.137 and 63.140 for all equipment used in the storage and conveyance of the waste stream.

(B) Comply with the provisions in §§63.1103(e), 63.138, and 63.139 for the treatment and control of the waste stream.

(C) Comply with the provisions in §§63.143 through 63.148 for monitoring and inspections of equipment and for recordkeeping and reporting requirements. The owner or operator is not required to comply with the monitoring, recordkeeping, and reporting requirements associated with the treatment and control requirements in §§61.355 through 61.357.

(ii) After the compliance date specified in §63.1102, compliance with §63.1103(e) shall constitute compliance with the Benzene Waste Operations NESHAP (subpart FF of 40 CFR part 61) for waste streams that are subject to both the control requirements of §63.1103(e)(3) for ethylene production sources and the control requirements of 40 CFR part 61, subpart FF.

§ 63.1102 Compliance Schedule.

(a) *General requirements.* Affected sources, as defined in §63.1103(a)(1)(i) for acetyl resins production, §63.1103(b)(1)(i) for acrylic and modacrylic fiber production, §63.1103(c)(1)(i) for hydrogen fluoride production, §63.1103(d)(1)(i) for polycarbonate production, §63.1103(e)(1)(i) for ethylene production, §63.1103(f)(1)(i) for carbon black production, §63.1103(g)(1)(i) for cyanide chemicals manufacturing, or §63.1103(h)(1)(i) for spandex production shall comply with the appropriate provisions of this subpart and the subparts referenced by this subpart according to the schedule in paragraph (a)(1) or (2) of this section, as appropriate. Proposal and effective dates are specified in Table 1 to this section.

(1) *Compliance dates for new and reconstructed sources.* (i) The owner or operator of a new or reconstructed affected source that commences construction or reconstruction after the proposal date, and that has an initial startup before the effective date of standards for an affected source, shall comply with this subpart no later than the applicable effective date in Table 1 to §63.1102 of this section.

(ii) The owner or operator of a new or reconstructed affected source that has an initial startup after the applicable effective date in Table 1 to §63.1102 of this section shall comply with this subpart upon startup of the source.

(iii) The owner or operator of an affected source that commences construction or reconstruction after the proposal date, but before the effective date in Table 1 to this section, shall comply with this subpart no later than the date 3 years after the effective date if the conditions in paragraphs (a)(1)(iii) (A) and (B) of this section are met.

(A) The promulgated standards are more stringent than the proposed standards.

(B) The owner or operator complies with this subpart as proposed during the 3-year period immediately after the effective date of standards for the affected source.

(2) *Compliance dates for existing sources.* (i) The owner or operator of an existing affected source shall comply with the requirements of this subpart within 3 years after the effective date of standards for the affected source.

(ii) The owner or operator of an area source that increases its emissions of (or its potential to emit) HAP such that the source becomes a major source shall be subject to the relevant standards for existing sources under this subpart. Such sources shall comply with the relevant standards within 3 years of becoming a major source.

(b) [Reserved].

Table 1 to § 63.1102 Source Category Proposal and Effective Dates

Source category	Proposal date	Effective date
(a) Acetal Resins Production.	October 14, 1998	June 29, 1999
(b) Acrylic and Modacrylic Fibers Production.	October 14, 1998	June 29, 1999
(c) Hydrogen Fluoride Production.	October 14, 1998	June 29, 1999
(d) Polycarbonate Production.	October 14, 1998	June 29, 1999
(e) Ethylene Production.	December 6, 2000	July 12, 2002
(f) Carbon Black Production.	December 6, 2000	July 12, 2002
(g) Cyanide Chemicals Manufacturing.	December 6, 2000	July 12, 2002
(h) Spandex Production.	December 6, 2000	July 12, 2002

§ 63.1103 Source category-specific applicability, definitions, and requirements.

(e) *Ethylene production applicability, definitions, and requirements*—(1) *Applicability*—(i) *Affected source.* For the ethylene production (as defined in paragraph (e)(2) of this section) source category, the affected source shall comprise all emission points listed in paragraphs (e)(1)(i) (A) through (G) of this section that are associated with an ethylene production unit that is located at a major source, as defined in section 112(a) of the Act.

(A) All storage vessels (as defined in §63.1101) that store liquids containing organic HAP.

(B) All ethylene process vents (as defined in paragraph (e)(2) of this section) from continuous unit operations.

(C) All transfer racks (as defined in paragraph (e)(2) of this section) that load HAP-containing material.

(D) Equipment (as defined in §63.1101) that contains or contacts organic HAP.

(E) All waste streams (as defined in paragraph (e)(2) of this section) associated with an ethylene production unit.

(F) All heat exchange systems (as defined in paragraph (e)(2) of this section) associated with an ethylene production unit.

(G) All ethylene cracking furnaces and associated decoking operations.

(ii) *Exceptions.* The emission points listed in paragraphs (e)(1)(ii) (A) through (L) of this section are in the ethylene production source category but are not subject to the requirements of paragraph (e)(3) of this section.

(A) Equipment that is located within an ethylene production unit that is subject to this subpart but does not contain organic HAP.

(B) Stormwater from segregated sewers.

(C) Water from fire-fighting and deluge systems in segregated sewers.

(D) Spills.

(E) Water from safety showers.

(F) Water from testing of fire-fighting and deluge systems.

(G) Vessels storing organic liquids that contain organic HAP as impurities.

(H) Transfer racks, loading arms, or loading hoses that only transfer liquids containing organic HAP as impurities.

(I) Transfer racks, loading arms, or loading hoses that vapor balance during all transfer operations.

(J) Air emissions from all ethylene cracking furnaces, including furnace stack emissions during decoking operations.

(K) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

(L) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships.

(iii) *Exclusions.* The provisions of this subpart do not apply to process units and emission points subject to subparts F, G, H, I and CC of this part.

(iv) *Compliance schedule.* The compliance schedule for the ethylene production source category is specified in §63.1102.

(2) *Definitions.* *Ethylene process vent* means a gas stream with a flow rate greater than 0.005 standard cubic meters per minute containing greater than 20 parts per million by volume HAP that is continuously discharged during operation of an ethylene production unit, as defined in this section. Ethylene process vents are gas streams that are discharged to the atmosphere (or the point of entry into a control device, if any) either directly or after passing through one or more recovery devices. Ethylene process vents do not include relief valve discharges; gaseous streams routed to a fuel gas system; leaks from equipment regulated under this subpart; episodic or nonroutine releases such as those associated with startup, shutdown, and malfunction; and in situ sampling systems (online analyzers).

Ethylene production or production unit means a chemical manufacturing process unit in which ethylene and/or propylene are produced by separation from petroleum refining process streams or by subjecting hydrocarbons to high temperatures in the presence of steam. The ethylene production unit includes the separation of ethylene and/or propylene from associated streams such as a C4 product, pyrolysis gasoline, and pyrolysis fuel oil. Ethylene production does not include the manufacture of SOCM chemicals such as the production of butadiene from the C4 stream and aromatics from pyrolysis gasoline.

Heat exchange system means any cooling tower system or once-through cooling water system (e.g., river or pond water). A heat exchange system can include an entire recirculating or once-through cooling system.

Transfer rack means the collection of loading arms and loading hoses at a single loading rack that is used to fill tank trucks and/or railcars with organic HAP. Transfer rack includes the associated pumps, meters, shutoff valves, relief valves, and other piping and valves. Transfer

rack does not include racks, arms, or hoses that contain organic HAP only as impurities; or racks, arms, or hoses that vapor balance during all loading operations.

Waste means any material resulting from industrial, commercial, mining, or agricultural operations, or from community activities, that is discarded or is being accumulated, stored, or physically, chemically, thermally, or biologically treated prior to being discarded, recycled, or discharged.

Waste stream means the waste generated by a particular process unit, product tank, or waste management unit. The characteristics of the waste stream (e.g., flow rate, HAP concentration, water content) are determined at the point of waste generation. Examples of a waste stream include process wastewater, product tank drawdown, sludge and slop oil removed from waste management units, and landfill leachate.

(3) *Requirements.* The owner or operator must control organic HAP emissions from each affected source emission point by meeting the applicable requirements specified in Table 7 to this section. An owner or operator must perform the applicability assessment procedures and methods for process vents specified in §63.1104, except for paragraphs (d), (g), (h), (i), (j), (l)(1), and (n). An owner or operator must perform the applicability assessment procedures and methods for equipment leaks specified in §63.1107. General compliance, recordkeeping, and reporting requirements are specified in §§63.1108 through 63.1112. Minimization of emissions from startup, shutdown, and malfunctions must be addressed in the startup, shutdown, and malfunction plan required by §63.1111; the plan must also establish reporting and recordkeeping of such events. Procedures for approval of alternate means of emission limitations are specified in §63.1113.

Table 7 to § 63.1103(e) What Are My Requirements if I Own or Operate an Ethylene Production Existing or New Affected Source?

If you own or operate	And if	Then you must
(a) A storage vessel (as defined in § 63.1101) that stores liquid containing organic HAP	(1) The maximum true vapor pressure of total organic HAP is ≥ 3.4 kilopascals but < 76.6 kilopascals; and the capacity of the vessel is ≥ 4 cubic meters but < 95 cubic meters	(i) Fill the vessel through a submerged pipe; or (ii) Comply with the requirements for storage vessels with capacities ≥ 95 cubic meters
(b) A storage vessel (as defined in § 63.1101) that stores liquid containing organic HAP.	(1) The maximum true vapor pressure of total organic HAP is ≥ 3.4 kilopascals but < 76.6 kilopascals; and the capacity of the vessel is ≥ 95 cubic meters.	(i) Comply with the requirements of subpart WW of this part; or (ii) Reduce emissions of total organic HAP by 98 weight-percent by venting emissions through a closed vent system to any combination of control devices and meet the requirements of §63.982(a)(1).
(c) A storage vessel (as defined in § 63.1101) that stores liquid containing	(1) The maximum true vapor pressure of total organic HAP is ≥ 76.6 kilopascals.	(i) Reduce emissions of total organic HAP by 98 weight-percent by venting emissions

If you own or operate	And if	Then you must
organic HAP.		through a closed vent system to any combination of control devices and meet the requirements of §63.982(a)(1).
(d) An ethylene process vent (as defined in paragraph (e)(2) of this section).	(1) The process vent is at an existing source and the vent stream has a flow rate \geq 0.011 scmm and a total organic HAP concentration \geq 50 parts per million by volume; or the process vent is at a new source and the vent stream has a flow rate \geq 0.008 scmm and a total organic HAP concentration \geq 30 parts per million by volume.	(i) Reduce emissions of organic HAP by 98 weight-percent; or reduce organic HAP or TOC to a concentration of 20 parts per million by volume; whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices and meet the requirements specified in §63.982(b) and (c)(2).
(e) A transfer rack (as defined in paragraph (e)(2) of this section).	(1) Materials loaded have a true vapor pressure of total organic HAP \geq 3.4 kilopascals and \geq 76 cubic meters per day (averaged over any consecutive 30-day period) of HAP-containing material is loaded.	(i) Reduce emissions of organic HAP by 98 weight-percent; or reduce organic HAP or TOC to a concentration of 20 parts per million by volume; whichever is less stringent, by venting emissions through a closed vent system to any combination of control devices as specified in § 63.1105; or (ii) Install process piping designed to collect the HAP-containing vapors displaced from tank trucks or railcars during loading and to route it to a process, a fuel gas system, or a vapor balance system, as specified in § 63.1105.
(f) Equipment (as defined in § 63.1101) that contains or contacts organic HAP.	(1) The equipment contains or contacts \geq 5 weight-percent organic HAP; and the equipment is not in vacuum service.	Comply with the requirements of subpart UU of this part.
(g) Processes that generate waste (as defined in paragraph	(1) The wastewater contains any of the following HAP:	(i) Comply with the waste requirements of subpart XX

If you own or operate	And if	Then you must
(e)(2) of this section).	benzene, cumene, ethyl benzene, hexane, naphthalene, styrene, toluene, o-xylene, m-xylene, p-xylene, or 1,3-butadiene.	of this part. For ethylene manufacturing process unit waste stream requirements, terms have the meanings specified in subpart XX.
(h) A heat exchange system (as defined in paragraph (e)(2) of this section).		Comply with the heat exchange system requirements of subpart XX of this part.

§ 63.1104 Process vents from continuous unit operations: applicability assessment procedures and methods.

(a) General. The provisions of this section provide calculation and measurement methods for criteria that are required by §63.1103 to be used to determine applicability of the control requirements for process vents from continuous unit operations. The owner or operator of a process vent is not required to determine the criteria specified for a process vent that is being controlled (including control by flare) in accordance with the applicable weight-percent, TOC concentration, or organic HAP concentration requirement in §63.1103.

(b) Sampling sites. For purposes of determining process vent applicability criteria, the sampling site shall be located as specified in (b)(1) through (4) of this section, as applicable.

(1) Sampling site location if TRE determination is required. If the applicability criteria specified in the applicable table of §63.1103 includes a TRE index value, the sampling site for determining volumetric flow rate, regulated organic HAP concentration, total organic HAP or TOC concentration, heating value, and TRE index value, shall be after the final recovery device (if any recovery devices are present) but prior to the inlet of any control device that is present, and prior to release to the atmosphere.

(2) Sampling site location if TRE determination is not required. If the applicability criteria specified in the applicable table of §63.1103 does not include a TRE index value, the sampling site for determining volumetric flow rate, regulated organic HAP concentration, total organic HAP or TOC concentration, and any other specified parameter shall be at the exit from the unit operation before any control device.

(3) Sampling site selection method. Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling site. No traverse site selection method is needed for process vents smaller than 0.10 meter (0.33 foot) in nominal inside diameter.

(4) Sampling site when a halogen reduction device is used prior to a combustion device. An owner or operator using a scrubber to reduce the process vent halogen atom mass emission rate to less than 0.45 kilograms per hour (0.99 pound per hour) prior to a combustion control device in compliance with §63.1103 (as appropriate) shall determine the halogen atom mass emission rate prior to the combustion device according to the procedures in paragraph (i) of this section.

(c) Applicability assessment requirement. The TOC or organic HAP concentrations, process vent volumetric flow rates, process vent heating values, process vent TOC or organic HAP emission rates, halogenated process vent determinations, process vent TRE index values, and engineering assessments for process vent control applicability assessment requirements are to be determined during maximum representative operating conditions for the process, except as provided in

paragraph (d) of this section, or unless the Administrator specifies or approves alternate operating conditions. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of an applicability test.

(e) TOC or Organic HAP concentration. The TOC or organic HAP concentrations shall be determined based on paragraph (e)(1), (e)(2), or (k) of this section, or any other method or data that have been validated according to the protocol in Method 301 of appendix A of 40 CFR part 63. For concentrations needed for comparison with the appropriate control applicability concentrations specified in §63.1103, TOC or organic HAP concentration shall be determined based on paragraph (e)(1), (e)(2), or (k) of this section or any other method or data that has been validated according to the protocol in method 301 of appendix A of this part. The owner or operator shall record the TOC or organic HAP concentration as specified in paragraph (l)(3) of this section.

(1) Method 18. The procedures specified in paragraph (e)(1)(i) and (ii) of this section shall be used to calculate parts per million by volume concentration using method 18 of 40 CFR part 60, appendix A:

(i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15-minute intervals during the run.

(ii) The concentration of either TOC (minus methane and ethane) or regulated organic HAP emissions shall be calculated according to paragraph (e)(1)(ii)(A) or (B) of this section, as applicable.

(A) The TOC concentration (CTOC) is the sum of the concentrations of the individual components and shall be computed for each run using Equation 1:

$$C_{TOC} = \frac{\sum_{i=1}^x (\sum_{j=1}^n C_{ji})}{x} \quad [Eq. 1]$$

Where:

C_{TOC} = Concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.

C_{ji} = Concentration of sample component j of the sample i, dry basis, parts per million by volume.

n = Number of components in the sample.

x = Number of samples in the sample run.

(B) The regulated organic HAP or total organic HAP concentration (CHAP) shall be computed according to Equation 1 in paragraph (e)(1)(ii)(A) of this section except that only the regulated or total organic HAP species shall be summed, as appropriate.

(2) Method 25A. The procedures specified in paragraphs (e)(2)(i) through (vi) of this section shall be used to calculate parts per million by volume concentration using Method 25A of 40 CFR part 60, appendix A.

(i) Method 25A of 40 CFR part 60, appendix A shall be used only if a single organic HAP compound comprises greater than 50 percent of total organic HAP or TOC, by volume, in the process vent.

(ii) The process vent composition may be determined by either process knowledge, test data collected using an appropriate Environmental Protection Agency method or a method or data validated according to the protocol in Method 301 of appendix A of part 63. Examples of information that could constitute process knowledge include calculations based on material

balances, process stoichiometry, or previous test results provided the results are still relevant to the current process vent conditions.

(iii) The organic compound used as the calibration gas for Method 25A of 40 CFR part 60, appendix A shall be the single organic HAP compound present at greater than 50 percent of the total organic HAP or TOC by volume.

(iv) The span value for Method 25A of 40 CFR part 60, appendix A shall be equal to the appropriate control applicability concentration value specified in the applicable table(s) presented in §63.1103 of this subpart.

(v) Use of Method 25A of 40 CFR part 60, appendix A is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(vi) The owner or operator shall demonstrate that the concentration of TOC including methane and ethane measured by Method 25A of 40 CFR part 60, appendix A is below one-half the appropriate control applicability concentration specified in the applicable table for a subject source category in §63.1103 in order to qualify for a low organic HAP concentration exclusion.

(f) Volumetric flow rate. The process vent volumetric flow rate (QS), in standard cubic meters per minute at 20 °C, shall be determined as specified in paragraph (f)(1) or (2) of this section and shall be recorded as specified in §63.1109(d).

(1) Use Method 2, 2A, 2C, 2D, 2F, or 2G of 40 CFR part 60, appendix A, as appropriate. If the process vent tested passes through a final steam jet ejector and is not condensed, the stream volumetric flow shall be corrected to 2.3 percent moisture; or

(2) The engineering assessment procedures in paragraph (k) of this section can be used for determining volumetric flow rates.

(k) Engineering assessment. For purposes of TRE index value determinations, engineering assessments may be used to determine process vent flow rate, net heating value, TOC emission rate, and total organic HAP emission rate for the representative operating condition expected to yield the lowest TRE index value. Engineering assessments shall meet the requirements of paragraphs (k)(1) through (4) of this section. If a process vent flow rate or process vent organic HAP or TOC concentration is being determined for comparison with the applicable flow rate or concentration value presented in the tables in §63.1103 to determine control requirement applicability, engineering assessment may be used to determine the flow rate or concentration for the representative operating conditions expected to yield the highest flow rate or concentration.

(1) If the TRE index value calculated using such engineering assessment and the TRE index value equation in paragraph (j) of this section is greater than 4.0, then the owner or operator is not required to perform the measurements specified in paragraphs (e) through (i) of this section.

(2) If the TRE index value calculated using such engineering assessment and the TRE index value equation in paragraph (j) of this section is less than or equal to 4.0, then the owner or operator is required either to perform the measurements specified in paragraphs (e) through (i) of this section for control applicability assessment or comply with the requirements (or standards) specified in the tables presented in §63.1103 (as applicable).

(3) Engineering assessment includes, but is not limited to, the examples specified in paragraphs (k)(3)(i) through (iv) of this section:

(i) Previous test results, provided the tests are representative of current operating practices at the process unit.

(ii) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(iii) Maximum flow rate, TOC emission rate, organic HAP emission rate, organic HAP or TOC concentration, or net heating value limit specified or implied within a permit limit applicable to the process vent.

(iv) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to those specified in paragraphs (k)(3)(iv)(A) through (k)(3)(iv)(D) of this section:

(A) Use of material balances based on process stoichiometry to estimate maximum TOC or organic HAP concentrations,

(B) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities,

(C) Estimation of TOC or organic HAP concentrations based on saturation conditions, and

(D) Estimation of maximum expected net heating value based on the stream concentration of each organic compound or, alternatively, as if all TOC in the stream were the compound with the highest heating value.

(4) All data, assumptions, and procedures used in the engineering assessment shall be documented. The owner or operator shall maintain the records specified in paragraphs (l)(1) through (4) of this section, as applicable.

(l) Applicability assessment recordkeeping requirements. (1) TRE index value records. The owner or operator shall maintain records of measurements, engineering assessments, and calculations performed to determine the TRE index value of the process vent according to the procedures of paragraph (j) of this section, including those records associated with halogen vent stream determination. Documentation of engineering assessments shall include all data, assumptions, and procedures used for the engineering assessments, as specified in paragraph (k) of this section. As specified in paragraph (m) of this section, the owner or operator shall include this information in the Notification of Compliance Status report required by §63.1110(a)(4).

(2) Flow rate records. The owner or operator shall record the flow rate as measured using the sampling site and flow rate determination procedures (if applicable) specified in paragraphs (b) and (f) of this section or determined through engineering assessment as specified in paragraph (k) of this section. As specified in paragraph (m) of this section, the owner or operator shall include this information in the Notification of Compliance Status report required by §63.1110(a)(4).

(3) Concentration records. The owner or operator shall record the regulated organic HAP or TOC concentration (if applicable) as measured using the sampling site and regulated organic HAP or TOC concentration determination procedures specified in paragraphs (e)(1) and (2) of this section, or determined through engineering assessment as specified in paragraph (k) of this section. As specified in paragraph (m) of this section, the owner or operator shall include this information in the Notification of Compliance Status report required by §63.1110(a)(4).

(4) Process change records. The owner or operator shall keep up-to-date, readily accessible records of any process changes that change the control applicability for a process vent. Records are to include any recalculation or measurement of the flow rate, regulated organic HAP or TOC concentration, and TRE index value.

(m) Applicability assessment reporting requirements. (1) Notification of Compliance Status. The owner or operator shall submit, as part of the Notification of Compliance Status report required by §63.1110(a)(4), the information recorded in paragraph (l)(1) through (3) of this section.

(2) Process change. (i) Whenever a process vent becomes subject to control requirements under this subpart as a result of a process change, the owner or operator shall submit a report within 60 days after the performance test or applicability assessment, whichever is sooner. The report may be submitted as part of the next Periodic Report required by §63.1110(a)(5). The report shall include the information specified in paragraphs (m)(2)(i)(A) through (C) of this section.

(A) A description of the process change;

(B) The results of the recalculation of the TOC or organic HAP concentration, flow rate, and/or TRE index value required under paragraphs (e), (f), and (j), and recorded under paragraph (l); and

(C) A statement that the owner or operator will comply with the requirements specified in §63.1103 by the schedules specified in that section for the affected source.

(ii) If a performance test is required as a result of a process change, the owner or operator shall specify that the performance test has become necessary due to a process change. This specification shall be made in the performance test notification to the Administrator, as specified in §63.999(a)(1).

(iii) If a process change does not result in additional applicable requirements, then the owner or operator shall include a statement documenting this in the next Periodic Report required by §63.1110(a)(5) after the process change was made.

§ 63.1105 Transfer racks.

(a) Design requirements. The owner or operator shall equip each transfer rack with one of the control options listed in paragraphs (a)(1) through (4) of this section.

(1) A closed vent system designed to collect HAP-containing vapors displaced from tank trucks or railcars during loading and to route the collected vapors to a flare. The owner or operator must meet the requirements of §63.982(a)(3).

(2) A closed vent system designed to collect HAP-containing vapors displaced from tank trucks or railcars during loading and to route the collected vapors to a control device other than a flare. The owner or operator must meet the requirements of §63.982(a)(3).

(3) Process piping designed to collect the HAP vapors displaced from tank trucks or railcars during loading and to route the collected vapors to a process where the HAP vapors shall predominantly meet one of, or a combination of, the ends specified in paragraphs (a)(3)(i) through (iv) of this section or to a fuel gas system. The owner or operator must meet the requirements of §63.982(a)(3).

(i) Recycled and/or consumed in the same manner as a material that fulfills the same function in that process;

(ii) Transformed by chemical reaction into materials that are not HAP;

(iii) Incorporated into a product; and/or

(iv) Recovered.

(4) Process piping designed to collect the HAP vapors displaced from tank trucks or railcars during loading and to route the collected vapors to a vapor balance system. The vapor balance system must be designed to route the collected HAP vapors to the storage vessel from which the liquid being loaded originated, or to another storage vessel connected to a common header, or to compress and route collected HAP vapors to a process.

(b) Operating requirements. An owner or operator of a transfer rack shall operate it in such a manner that emissions are routed through the equipment specified in paragraph (a) of this section.

(c) Control device operation. Whenever HAP emissions are vented to a control device used to comply with the provisions of this subpart, such control device shall be operating.

(d) Tank trucks and railcars. The owner or operator shall load HAP-containing materials only into tank trucks and railcars that meet the requirement in paragraph (d)(1) or (2) of this section and shall maintain the records specified in paragraph (i) of this section.

(1) Have a current certification in accordance with the U.S. Department of Transportation (DOT) pressure test requirements of 49 CFR part 180 for tank trucks and 49 CFR 173.31 for railcars; or

(2) Have been demonstrated to be vapor-tight within the preceding 12 months as determined by the procedures in paragraph (h) of this section. Vapor-tight means that the pressure in a truck or railcar tank will not drop more than 750 pascals within 5 minutes after it is pressurized to a minimum of 4,500 pascals.

(e) Pressure relief device. The owner or operator of a transfer rack subject to the provisions of this subpart shall ensure that no pressure relief device in the loading equipment of each tank truck or railcar shall begin to open to the atmosphere during loading. Pressure relief devices needed for safety purposes are not subject to the requirements of this paragraph.

(f) Compatible system. The owner or operator of a transfer rack subject to the provisions of this subpart shall load HAP-containing materials only to tank trucks or railcars equipped with a vapor collection system that is compatible with the transfer rack's closed vent system or process piping.

(g) Loading while systems connected. The owner or operator of a transfer rack subject to this subpart shall load HAP-containing material only to tank trucks or railcars whose collection systems are connected to the transfer rack's closed vent system or process piping.

(h) Vapor tightness procedures. For the purposes of demonstrating vapor tightness to determine compliance with paragraph (d)(2) of this section, the procedures and equipment specified in paragraphs (h)(1) and (2) shall be used.

(1) The pressure test procedures specified in Method 27 of appendix A to 40 CFR part 60.

(2) A pressure measurement device that has a precision of ± 2.5 millimeters of mercury or better and that is capable of measuring above the pressure at which the tank truck or railcar is to be tested for vapor tightness.

(i) Recordkeeping. The owner or operator of a transfer rack shall record that the verification of DOT tank certification or Method 27 of appendix A to 40 CFR part 60 testing required in §63.84(c) has been performed. Various methods for the record of verification can be used, such as a check-off on a log sheet, a list of DOT serial numbers or Method 27 data, or a position description for gate security showing that the security guard will not allow any trucks on-site that do not have the appropriate documentation.

§ 63.1106 Wastewater provisions.

(a) Process wastewater. Except as specified in paragraphs (a)(1) through (a)(16) and paragraph (d) of this section, the owner or operator of each affected source shall comply with the HON process wastewater requirements in §§63.132 through 63.148.

(1) When terms used in §§63.132 through 63.148 are defined in §63.1101, the definition in §63.1101 shall apply, for the purposes of this subpart. For terms used in §§63.132 through 63.148 that are not defined in §63.1101, the definitions in §63.101 and §63.111 shall apply.

- (2) When the term chemical manufacturing production process unit, or CMPU, is used in §§63.132 through 63.148, the phrase “a process unit whose primary product is a product produced by a source category subject to this subpart” shall apply, for the purposes of this subpart.
- (3) Owners and operators of affected sources are not required to comply with §63.132(b)(1) and (d) and §63.138(c). Further, owners and operators are exempt from all requirements in §§63.132 through 63.148 that pertain solely and exclusively to organic HAP listed in Table 8 of subpart G of this part.
- (4) When the determination of equivalence criteria in §63.102(b) is referred to in §§63.132, 63.133, and 63.137, the alternative nonopacity emission standard provisions in §63.6(g) shall apply, for the purposes of this subpart.
- (5) When the HON storage vessel requirements for internal floating roofs contained in §63.119(b) are referred to in §63.133(a)(2)(ii), the requirements in §63.1063(a)(1)(i), (2), and (b) shall apply, for the purposes of this subpart.
- (6) When the HON storage vessel requirements for external floating roofs in §63.119(c) and §63.120(b)(5) and (6) are referred to in §63.133(a)(2)(iii) and (d), the requirements in §63.1063(a)(1)(ii), (2), and (b) shall apply, for the purposes of this subpart.
- (7) For the purposes of this subpart, §63.1063(c)(2)(iv) shall apply instead of §63.133(e).
- (8) When §63.143(c), (d), (e)(3) and §63.146(a) require the submission of a request for approval to monitor alternative parameters according to the procedures specified in §63.151(f) or (g), the owner or operator requesting to monitor alternative parameters shall follow the procedures specified in §63.1108(c) or as specified in a referenced subpart.
- (9) When §63.147(d) requires the owner or operator to keep records of the daily average value of each continuously monitored parameter for each operating day as specified in §63.152(f), the owner or operator shall keep records of each continuously monitored parameter for each operating day as specified in §63.998(b).
- (10) When §63.132(a) and (b) refer to the “applicable dates specified in §63.100 of subpart F of this part,” the applicable compliance dates specified in §63.1102 shall apply, for purposes of this subpart.
- (11) Where §63.152(b) and/or the Notification of Compliance Status is referred to in §§63.132 through 63.148, the Notification of Compliance Status requirements contained in §63.1110(a)(3) shall apply, for purposes of this subpart.
- (12) Where §63.152(c) and/or the Periodic Report requirements are referred to §§63.132 through 63.148, the Periodic Report requirements contained in §63.1110(a)(4) shall apply, for purposes of this subpart.
- (13) When Method 18 of appendix A to part 60 of this chapter is specified in §63.139(e)(1)(ii), §63.145(d)(4), or §63.145(i)(2), either Method 18 or Method 25A may be used. The use of Method 25A of appendix A to part 60 of this chapter shall comply with paragraphs (a)(13)(i) and (a)(13)(ii) of this section.
- (i) The organic HAP used as the calibration gas for Method 25A of appendix A of part 60 of this chapter shall be the single organic HAP representing the largest percent by volume of the emissions.
- (ii) The use of Method 25A of appendix A of part 60 of this chapter is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(14) When the HON recordkeeping requirements for by-pass lines in §63.118(a)(3) is referred to in §63.148(f), the requirements in §63.998(d)(1)(ii)(A) shall apply, for the purposes of this subpart.

(15) When the Initial Notification requirements in §63.182(b) are referred to in §63.148(j), the requirements in §63.1110(c) shall apply, for the purposes of this subpart.

(16) For the purposes of this subpart, §63.148(k) shall not apply.

(b) Maintenance wastewater. The owner or operator of each affected source shall comply with the HON maintenance wastewater requirements in §63.105. When terms used in §63.105 are defined in §63.1101, the definition in §63.1101 shall apply, for the purpose of this subpart. For terms used in §63.105 that are not defined in §63.1101, the definitions in §63.101 and §63.111 shall apply.

(c) Liquid streams in open systems. The owner or operator shall comply with the provisions of Table 35 of subpart G of this part for each item of equipment meeting the criteria specified in paragraphs (c)(1) through (3) of this section and either paragraph (c)(4)(i) or (ii) of this section, with the exceptions provided in paragraphs (c)(5) and (6) of this section.

(1) The item of equipment is one of the types of equipment identified in paragraphs (c)(1)(i) through (vii) of this section.

(i) Drain or drain hub;

(ii) Manhole (including sumps and other points of access to a conveyance system);

(iii) Lift station;

(iv) Trench;

(v) Pipe;

(vi) Oil/water separator; and

(vii) Tanks with capacities of 38 m³ or greater.

(2) The item of equipment is part of an affected source that is subject to this subpart.

(3) The item of equipment is controlled less stringently than in Table 35 of subpart G of this part, and the item of equipment is not otherwise exempt from the provisions of this subpart, or a referenced subpart.

(4) The item of equipment:

(i) Is a drain, drain hub, manhole, lift station, trench, pipe, or oil/water separator that conveys water with a total annual average concentration greater than or equal to 10,000 parts per million by weight of Table 9 compounds (as defined under this subpart) at any flow rate; or a total annual average concentration greater than or equal to 1,000 parts per million by weight of Table 9 compounds (as defined under this subpart) at an annual average flow rate greater than or equal to 10 liters per minute.

(ii) Is a tank that receives one or more streams that contain water with a total annual average concentration greater than or equal to 1,000 parts per million by weight of Table 9 compounds (as defined under this subpart) at an annual average flow rate greater than or equal to 10 liters per minute. The owner or operator shall determine the characteristics of the stream as specified in paragraphs (c)(4)(ii)(A) and (B) of this section.

(A) The characteristics of the stream being received shall be determined at the inlet to the tank.

(B) The characteristics shall be determined according to the procedures in §63.144(b) and (c).

(5) When terms used in Table 35 of subpart G of this part are defined in §63.1101, the definition in §63.1101 shall apply, for the purpose of this subpart. For terms used in Table 35 of subpart G of this part that are not defined in §63.1101, the definitions in §63.101 and §63.111 shall apply.

(6) When Table 35 of subpart G of this part refers to 40 CFR 63.119(e)(1) or (e)(2) in the requirements for tanks, the requirements in §63.982(a)(1) shall apply, for purposes of this subpart.

(d) The compliance date for the affected sources subject to the provisions of this section is specified in §63.1102.

§ 63.1107 Equipment leaks: applicability assessment procedures and methods.

(a) Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed the percent by weight control applicability criteria specified in §63.1103 for an affected source on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used.

(b) An owner or operator may use good engineering judgment rather than the procedures in paragraph (a) of this section to determine that the percent organic HAP content does not exceed the percent by weight control applicability criteria specified in §63.1103 for an affected source. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in paragraph (a) of this section shall be used to resolve the disagreement.

(c) If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in paragraph (a) of this section, or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service.

(d) Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

§ 63.1108 Compliance with standards and operation and maintenance requirements.

(a) Requirements. (1) Except as provided in paragraph (a)(2) of this section, the emission limitations and established parameter ranges of this part shall apply at all times except during periods of startup, shutdown, malfunction, or non-operation of the affected source (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. During periods of startup, shutdown, or malfunction, the owner or operator shall follow the applicable provisions of the startup, shutdown, malfunction plan required by §63.1111. However, if a startup, shutdown, malfunction or period of non-operation of one portion of an affected source does not affect the ability of a particular emission point to comply with the specific provisions to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this subpart and any of the subparts that are referenced by this subpart during startup, shutdown, malfunction, or period of non-operation.

(2) If equipment leak requirements are referenced by this subpart for a subject source category, such requirements shall apply at all times except during periods of startup, shutdown, or malfunction, process unit shutdown (as defined in §63.1101), or non-operation of the affected

source (or specific portion thereof) in which the lines are drained and depressurized resulting in cessation of the emissions to which the equipment leak requirements apply.

(3) For batch unit operations, shutdown does not include the normal periods between batch cycles; and startup does not include the recharging of batch unit operations, or the transitional conditions due to changes in product.

(4) [Reserved]

(5) During startups, shutdowns, and malfunctions when the emission standards of this subpart and the subparts referenced by this subpart do not apply pursuant to paragraphs (a)(1) through (4) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions. The measures to be taken shall be identified in the startup, shutdown, and malfunction plan (if applicable), and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the affected source. Back-up control devices are not required, but may be used if available. Compliance with an inadequate startup, shutdown, and malfunction plan developed pursuant to §63.1111 is not a shield for failing to comply with good operation and maintenance requirements.

(6) Malfunctions shall be corrected as soon as practical after their occurrence and/or in accordance with the source's startup, shutdown, and malfunction plan developed as specified under §63.1111.

(7) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable, independent of emissions limitations or other requirements in relevant standards.

(b) Compliance assessment procedures. (1) Parameter monitoring: compliance with operating conditions. Compliance with the required operating conditions for the monitored control devices or recovery devices may be determined by, but is not limited to, the parameter monitoring data for emission points that are required to perform continuous monitoring. For each excursion except for excused excursions (as described in §63.998(b)(6)(ii)), and as provided for in paragraph (b)(2) of this section the owner or operator shall be deemed to have failed to have applied the control in a manner that achieves the required operating conditions.

(2) Parameter monitoring: Excursions. An excursion is not a violation in cases where continuous monitoring is required and the excursion does not count toward the number of excused excursions (as described in §63.998(b)(6)(ii)), if the conditions of paragraph (b)(2)(i) or (ii) of this section are met. Nothing in this paragraph shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of this subpart or a subpart referenced by this subpart.

(i) During periods of startup, shutdown, or malfunction (and the source is operated during such periods in accordance with the source's startup, shutdown, and malfunction plan as required by §63.1111), or

(ii) During periods of non-operation of the affected source or portion thereof (resulting in cessation of the emissions to which the monitoring applies).

(3) Operation and maintenance procedures. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Administrator. This information may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan under §63.1111), review of operation and maintenance records, and inspection of the affected source, and alternatives approved as specified in §63.1113.

(4) Applicability and compliance assessment procedures. Applicability and compliance with standards shall be governed by, in part, but not limited to, the use of data, tests, and requirements according to paragraphs (b)(4)(i) through (iii) of this section. Compliance with design, equipment, work practice, and operating standards, including those for equipment leaks, shall be determined according to paragraph (b)(5) of this section.

(i) Applicability assessments. Unless otherwise specified in a relevant test method required to assess control applicability, each test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in this subpart. The arithmetic mean of the results of the three runs shall apply when assessing applicability. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run if it meets the criteria specified in paragraphs (a)(4)(i)(A) through (D) of this section.

(A) A sample is accidentally lost after the testing team leaves the site; or

(B) Conditions occur in which one of the three runs must be discontinued because of forced shutdown; or

(C) Extreme meteorological conditions occur;

(D) Other circumstances occur that are beyond the owner or operator's control.

(ii) Performance test. The Administrator may determine compliance with emission limitations of this subpart based on, but not limited to, the results of performance tests conducted according to the procedures specified in §63.997 of this part, unless otherwise specified in this subpart or a subpart referenced by this subpart.

(iii) Operation and maintenance requirements. The Administrator may determine compliance with the operation and maintenance standards of this subpart by, but not limited to, evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in this subpart or a subpart referenced by this subpart.

(5) Design, equipment, work practice, or operational standards. The Administrator may determine compliance with design, equipment, work practice, or operational requirements by, but is not limited to, review of records, inspection of the affected source, and by evaluation of an owner or operator's conformance with operation and maintenance requirements as specified in this subpart, and in the subparts referenced by this subpart.

(c) Finding of compliance. The Administrator may make a finding concerning an affected source's compliance with an emission standard or operating and maintenance requirement as specified in, but not limited to, paragraphs (a) and (b) of this section, upon obtaining all of the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable) and any information available to the Administrator to determine whether proper operation and maintenance practices are being used. Standards in this subpart and methods of determining compliance are in metric units followed by the equivalents in English units. The Administrator will make findings of compliance with the numerical standards of this subpart using metric units.

(d) Compliance time. All terms that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annually), unless specified otherwise in the section or subsection that imposes the requirement, refer to the standard calendar periods.

(1) Notwithstanding time periods specified for completion of required tasks, time periods may be changed by mutual agreement between the owner or operator and the Administrator, as specified in §63.1110(h). For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(2) When the period specified for compliance is a standard calendar period, if the initial compliance date occurs after the beginning of the period, compliance shall be required according to the schedule specified in paragraph (d)(2) (i) or (ii) of this section, as appropriate.

(i) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs, if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(ii) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

(3) In all instances where a provision requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during the specified period, provided the task is conducted at a reasonable interval after completion of the task during the previous period.

§ 63.1109 Recordkeeping requirements.

(a) Maintaining notifications, records, and reports. Except as provided in paragraph (b) of this section, the owner or operator of each affected source subject to this subpart shall keep copies of notifications, reports and records required by this subpart and subparts referenced by this subpart for at least 5 years, unless otherwise specified under this subpart.

(b) Copies of reports. If the Administrator has waived the requirement of §63.1110(g)(1) for submittal of copies of reports, the owner or operator is not required to maintain copies of the waived reports. This paragraph applies only to reports and not the underlying records that must be maintained as specified in this subpart and the subparts referenced by this subpart.

(c) Availability of records. All records required to be maintained by this subpart or a subpart referenced by this subpart shall be maintained in such a manner that they can be readily accessed and are suitable for inspection. The records of the remaining 3 years, where required, may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, computer disk, magnetic tape, or microfiche.

(d) Control applicability records. Owners or operators shall maintain records containing information developed and used to assess control applicability under §63.1103 (e.g., combined total annual emissions of regulated organic HAP).

§ 63.1111 Startup, shutdown, and malfunction.

(a) Startup, shutdown, and malfunction plan. (1) Description and purpose of plan. The owner or operator of an affected source shall develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the affected source during periods of startup, shutdown, and malfunction. This plan shall also include a program of corrective action for malfunctioning process and air pollution control equipment used to comply with relevant standards under this subpart. The plan shall also address routine or otherwise predictable CPMS malfunctions. This plan shall be developed by the owner or operator by the affected source's compliance date under this subpart. The requirement to develop and implement this plan shall be incorporated into the source's title V permit. This requirement is optional for equipment that must comply with subparts TT or UU under this subpart. It is not

optional for equipment equipped with a closed vent system and control device subject to this subpart and subpart SS of this part. The purpose of the startup, shutdown, and malfunction plan is described in paragraphs (a)(1)(i) and (ii) of this section.

(i) To ensure that owners or operators are prepared to correct malfunctions as soon as practical after their occurrence, in order to minimize excess emissions of regulated organic HAP; and
(ii) To reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(2) Operation of source. During periods of startup, shutdown, and malfunction, the owner or operator of an affected source subject to this subpart shall operate and maintain such affected source (including associated air pollution control equipment and CPMS) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (a)(1) of this section.

(3) Use of additional procedures. To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator of an affected source may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection when requested by the Administrator.

(4) Revisions to the plan. Based on the results of a determination made under §63.1108(b)(3), the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator may require reasonable revisions to a startup, shutdown, and malfunction plan if the Administrator finds that the plan is inadequate as specified in paragraphs (a)(4)(i) through (iv) of this section:

(i) Does not address a startup, shutdown, and malfunction event of the CPMS, the air pollution control equipment, or the affected source that has occurred; or

(ii) Fails to provide for the operation of the affected source (including associated air pollution control equipment and CPMS) during a startup, shutdown, and malfunction event in a manner consistent with good air pollution control practices for minimizing emissions to the extent practical; or

(iii) Does not provide adequate procedures for correcting malfunctioning process and air pollution control equipment as quickly as practicable; or

(iv) Does not provide adequate measures to prevent or minimize excess emissions to the extent practical as specified in §63.1108(a)(5).

(5) Additional malfunction plan requirements. If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator shall revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the affected source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment or CPMS.

(b) Startup, shutdown, and malfunction reporting requirements. (1) Periodic startup, shutdown, and malfunction reporting requirements. If actions taken by an owner or operator during a startup, shutdown, and malfunction of an affected source, or of a control device or monitoring system required for compliance (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's plan, then the owner or operator shall state

such information in a startup, shutdown, and malfunction report. During the reporting period, reports shall only be required for startups, shutdowns, and malfunctions during which excess emissions, as defined in §63.1108(a)(5), occur during the reporting period. A startup, shutdown, and malfunction report can be submitted as part of a Periodic Report required under §63.1110(a)(5), or on a more frequent basis if specified otherwise under this subpart or a subpart referenced by this subpart or as established otherwise by the permitting authority in the affected source's title V permit. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate), unless the information is submitted with the Periodic Report. The report shall include the information specified in paragraphs (b)(1)(i) through (b)(1)(iv) of this section.

(i) The name, title, and signature of the owner or operator or other responsible official certifying its accuracy.

(ii) The number of startup, shutdown, and malfunction events and the total duration of all periods of startup, shutdown, and malfunction for the reporting period if the total duration amounts to either of the durations in paragraphs (b)(1)(ii)(A) or (B) of this section. Records of the number of CPMS startup, shutdown, and malfunction events and the total duration of all periods of startup, shutdown, and malfunction for the reporting period are required under §63.998(c)(1)(ii)(C) and (D) of this section.

(A) Total duration of periods of malfunctioning of a CPMS equal to or greater than 5 percent of that CPMS operating time for the reporting period; or

(B) Total duration of periods of startup, shutdown, and malfunction for an affected source equal to or greater than 1 percent of that affected source's operating time for the reporting period.

(iii) Records documenting each startup, shutdown and malfunction event as required under §63.998(c)(1)(ii)(F).

(iv) Records documenting the total duration of operating time as required under §63.998(c)(1)(ii)(H).

(2) Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for startup, shutdown, and malfunction reports under paragraph (b)(1) of this section, any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) during which excess emissions occur is not consistent with the procedures specified in the affected source's plan, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan, followed by a letter delivered or postmarked within 7 working days after the end of the event. The immediate report required under this paragraph shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.

Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph are specified in §63.1110(h).

XI. Appendix G

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart XX—National Emission Standards for Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations

(The following selected sections and paragraphs of subpart XX are listed here for convenience.
Refer to the whole subpart for complete and detailed requirements.)

Introduction

§ 63.1080 What is the purpose of this subpart?

This subpart establishes requirements for controlling emissions of hazardous air pollutants (HAP) from heat exchange systems and waste streams at new and existing ethylene production units.

§ 63.1081 When must I comply with the requirements of this subpart?

You must comply with the requirements of this subpart according to the schedule specified in §63.1102(a).

§ 63.1082 What definitions do I need to know?

(a) Unless defined in paragraph (b) of this section, definitions for terms used in this subpart are provided in the Clean Air Act, §63.1103(e), and 40 CFR 61.341.

(b) The following definitions apply to terms used in this subpart:

Continuous butadiene waste stream means the continuously flowing process wastewater from the following equipment: The aqueous drain from the debutanizer reflux drum, water separators on the C4 crude butadiene transfer piping, and the C4 butadiene storage equipment; and spent wash water from the C4 crude butadiene carbonyl wash system. The continuous butadiene waste stream does not include butadiene streams generated from sampling, maintenance activities, or shutdown purges. The continuous butadiene waste stream does not include butadiene streams from equipment that is currently an affected source subject to the control requirements of another NESHAP. The continuous butadiene waste stream contains less than 10 parts per million by weight (ppmw) of benzene.

Dilution steam blowdown waste stream means any continuously flowing process wastewater stream resulting from the quench and compression of cracked gas (the cracking furnace effluent) at an ethylene production unit and is discharged from the unit. This stream typically includes the aqueous or oily-water stream that results from condensation of dilution steam (in the cracking furnace quench system), blowdown from dilution steam generation systems, and aqueous streams separated from the process between the cracking furnace and the cracked gas dehydrators. The dilution steam blowdown waste stream does not include dilution steam blowdown streams generated from sampling, maintenance activities, or shutdown purges. The

dilution steam blowdown waste stream also does not include blowdown that has not contacted HAP-containing process materials.

Heat exchange system means any cooling tower system or once-through cooling water system (e.g., river or pond water). A heat exchange system can include more than one heat exchanger and can include an entire recirculating or once-through cooling system.

Process wastewater means water which comes in contact with benzene or butadiene during manufacturing or processing operations conducted within an ethylene production unit. Process wastewater is not organic wastes, process fluids, product tank drawdown, cooling water blowdown, steam trap condensate, or landfill leachate. Process wastewater includes direct-contact cooling water.

Spent caustic waste stream means the continuously flowing process wastewater stream that results from the use of a caustic wash system in an ethylene production unit. A caustic wash system is commonly used at ethylene production units to remove acid gases and sulfur compounds from process streams, typically cracked gas. The spent caustic waste stream does not include spent caustic streams generated from sampling, maintenance activities, or shutdown purges.

Applicability for Heat Exchange Systems

§ 63.1083 Does this subpart apply to my heat exchange system?

The provisions of this subpart apply to your heat exchange system if you own or operate an ethylene production unit expressly referenced to this subpart XX from subpart YY of this part. The provisions of subpart A (General Provisions) of this part do not apply to this subpart except as specified in subpart YY of this part.

§ 63.1084 What heat exchange systems are exempt from the requirements of this subpart?

Your heat exchange system is exempt from the requirements in §§63.1085 and 63.1086 if it meets any one of the criteria in paragraphs (a) through (e) of this section.

(a) Your heat exchange system operates with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.

(b) Your heat exchange system contains an intervening cooling fluid, containing less than 5 percent by weight of total HAP listed in Table 1 to this subpart, between the process and the cooling water. This intervening fluid must serve to isolate the cooling water from the process fluid and must not be sent through a cooling tower or discharged. For purposes of this section, discharge does not include emptying for maintenance purposes.

(c) The once-through heat exchange system is subject to a National Pollution Discharge Elimination System (NPDES) permit with an allowable discharge limit of 1 part per million by volume (ppmv) or less above influent concentration, or 10 percent or less above influent concentration, whichever is greater.

(d) Your once-through heat exchange system is subject to a NPDES permit that meets all of the conditions in paragraphs (d)(1) through (4) of this section.

(1) The permit requires monitoring of a parameter or condition to detect a leak of process fluids to cooling water.

(2) The permit specifies the normal range of the parameter or condition.

- (3) The permit requires monthly or more frequent monitoring for the parameters selected as leak indicators.
- (4) The permit requires you to report and correct leaks to the cooling water when the parameter or condition exceeds the normal range.
- (e) Your recirculating or once-through heat exchange system cools process fluids that contain less than 5 percent by weight of total HAP listed in Table 1 to this subpart.

Heat Exchange System Requirements

§ 63.1085 What are the general requirements for heat exchange systems?

Unless you meet one of the requirements for exemptions in §63.1084, you must meet the requirements in paragraphs (a) through (d) of this section.

- (a) Monitor the cooling water for the presence of substances that indicate a leak according to §63.1086.
- (b) If you detect a leak, repair it according to §63.1087 unless repair is delayed according to §63.1088.
- (c) Keep the records specified in §63.1089.
- (d) Submit the reports specified in §63.1090.

Monitoring Requirements for Heat Exchange Systems

§ 63.1086 How must I monitor for leaks to cooling water?

You must monitor for leaks to cooling water by monitoring each heat exchange system according to the requirements of paragraph (a) of this section, monitoring each heat exchanger according to the requirements of paragraph (b) of this section, or monitoring a surrogate parameter according to the requirements of paragraph (c) of this section. If you elect to comply with the requirements of paragraph (a) or (b) of this section, you may use alternatives in paragraph (d)(1) or (2) of this section for determining the mean entrance concentration.

(a) Heat exchange system. Monitor cooling water in each heat exchange system for the HAP listed in Table 1 to this subpart (either total or speciated) or other representative substances (e.g., total organic carbon or volatile organic compounds (VOC)) that indicate the presence of a leak according to the requirements in paragraphs (a)(1) through (5) of this section.

(1) You define the equipment that comprises each heat exchange system. For the purposes of implementing paragraph (a) of this section, a heat exchange system may consist of an entire heat exchange system or any combinations of heat exchangers such that, based on the rate of cooling water at the entrance and exit to each heat exchange system and the sensitivity of the test method being used, a leak of 3.06 kg/hr or greater of the HAP in Table 1 to this subpart would be detected. For example, if the test you decide to use has a sensitivity of 1 ppmv for total HAP, you must define the heat exchange system so that the cooling water flow rate is 51,031 liters per minute or less so that a leak of 3.06 kg/hr can be detected.

(2) Monitoring periods. For existing sources, monitor cooling water as specified in paragraph (a)(2)(i) of this section. Monitor heat exchange systems at new sources according to the specifications in paragraph (a)(2)(ii) of this section.

(i) Monitor monthly for 6 months, both initially and following completion of a leak repair. Then monitor as provided in either paragraph (a)(2)(i)(A) or (a)(2)(i)(B) of this section, as appropriate.

(A) If no leaks are detected by monitoring monthly for a 6-month period, monitor quarterly thereafter until a leak is detected.

(B) If a leak is detected, monitor monthly until the leak has been repaired. Upon completion of repair, monitor according to the specifications in paragraph (a)(2)(i) of this section.

(ii) Monitor the cooling water weekly for heat exchange systems at new sources.

(3) Determine the concentration of the monitored substance in the heat exchange system cooling water using any method listed in 40 CFR part 136. Use the same method for both entrance and exit samples. You may validate 40 CFR part 136 methods for the HAP listed in Table 1 to this subpart according to the procedures in appendix D to this part. Alternative methods may be used upon approval by the Administrator.

(4) Take a minimum of three sets of samples at each entrance and exit.

(5) Calculate the average entrance and exit concentrations, correcting for the addition of make-up water and evaporative losses, if applicable. Using a one-sided statistical procedure at the 0.05 level of significance, if the exit mean concentration is at least 10 percent greater than the entrance mean, or a leak of 3.06 kg/hr or greater of the HAP (total or speciated) in Table 1 to this subpart or other representative substance into the cooling water is detected, you have detected a leak.

(b) Individual heat exchangers. Monitor the cooling water at the entrance and exit of each heat exchanger for the HAP in Table 1 to this subpart (either total or speciated) or other representative substances (e.g., total organic carbon or VOC) that indicate the presence of a leak in a heat exchanger according to the requirements in paragraphs (b)(1) through (4) of this section.

(1) Monitoring periods. For existing sources, monitor cooling water as specified in paragraph (b)(1)(i) of this section. Monitor each heat exchanger at new sources according to the specifications in paragraph (b)(1)(ii) of this section.

(i) Monitor monthly for 6 months, both initially and following completion of a leak repair. Then monitor as provided in paragraph (b)(1)(i)(A) or (b)(1)(i)(B) of this section, as appropriate.

(A) If no leaks are detected by monitoring monthly for a 6-month period, monitor quarterly thereafter until a leak is detected.

(B) If a leak is detected, monitor monthly until the leak has been repaired. Upon completion of repair, monitor according to the specifications in paragraph (b)(1)(i) of this section.

(ii) Monitor the cooling water weekly for heat exchangers at new sources.

(2) Determine the concentration of the monitored substance in the cooling water using any method listed in 40 CFR part 136, as long as the method is sensitive to concentrations as low as 10 ppmv. Use the same method for both entrance and exit samples. Validation of 40 CFR part 136 methods for the HAP listed in Table 1 to this subpart may be determined according to the provisions of appendix D to this part. Alternative methods may be used upon approval by the Administrator.

(3) Take a minimum of three sets of samples at each heat exchanger entrance and exit.

(4) Calculate the average entrance and exit concentrations, correcting for the addition of make-up water and evaporative losses, if applicable. Using a one-sided statistical procedure at the 0.05 level of significance, if the exit mean concentration is at least 1 ppmv or 10 percent greater than the entrance mean, whichever is greater, you have detected a leak.

(c) Surrogate parameters. You may elect to comply with the requirements of this section by monitoring using a surrogate indicator of leaks, provided that you comply with the requirements

of paragraphs (c)(1) through (3) of this section. Surrogate indicators that could be used to develop an acceptable monitoring program are ion specific electrode monitoring, pH, conductivity, or other representative indicators.

(1) You shall prepare and implement a monitoring plan that documents the procedures that will be used to detect leaks of process fluids into cooling waters. The plan shall require monitoring of one or more process parameters or other conditions that indicate a leak. Monitoring that is already being conducted for other purposes may be used to satisfy the requirements of this section. The plan shall include the information specified in paragraphs (c)(1)(i) through (iv) of this section.

(i) A description of the parameter or condition to be monitored and an explanation of how the selected parameter or condition will reliably indicate the presence of a leak.

(ii) The parameter level(s) or condition(s) that shall constitute a leak. This shall be documented by data or calculations showing that the selected levels or conditions will reliably identify leaks. The monitoring must be sufficiently sensitive to determine the range of parameter levels or conditions when the system is not leaking. When the selected parameter level or condition is outside that range, you have detected a leak.

(iii) Monitoring periods. For existing sources, monitor cooling water as specified in paragraph (c)(1)(iii)(A) of this section. Monitor heat exchange systems at new sources according to the specifications in paragraph (c)(1)(iii)(B) of this section.

(A) Monitor monthly for 6 months, both initially and following completion of a leak repair. Then monitor as provided in paragraph (c)(1)(iii)(A)(1) or (c)(1)(iii)(A)(2) of this section, as appropriate.

(1) If no leaks are detected, monitor quarterly thereafter until a leak is detected.

(2) If a leak is detected, monitor monthly until the leak has been repaired. Upon completion of repair, monitor according to the specifications in paragraph (c)(1)(iii)(A) of this section.

(B) Monitor the cooling water weekly for heat exchange systems at new sources.

(iv) The records that will be maintained to document compliance with the requirements of this section.

(2) If a leak is identified by audio, visual, or olfactory inspection, a method listed in 40 CFR part 136, or any other means other than those described in the monitoring plan, and the method(s) specified in the plan could not detect the leak, you shall revise the plan and document the basis for the changes. You shall complete the revisions to the plan no later than 180 days after discovery of the leak.

(3) You shall maintain, at all times, the monitoring plan that is currently in use. The current plan shall be maintained on-site, or shall be accessible from a central location by computer or other means that provide access within 2 hours after a request. If the monitoring plan is changed, you must retain the most recent superseded plan for at least 5 years from the date of its creation. The superseded plan shall be retained on-site or accessible from a central location by computer or other means that provide access within 2 hours after a request.

(d) Simplifying assumptions for entrance mean concentration. If you are complying with paragraph (a) or (b) of this section, you may elect to determine the entrance mean concentration as specified in paragraph (d)(1) or (2) of this section.

(1) Assume that the entrance mean concentration of the monitored substance is zero; or,

(2) Determine the entrance mean concentration of a monitored substance at a sampling location anywhere upstream of the heat exchanger or heat exchange system, provided that there is not a

reasonable opportunity for the concentration to change at the entrance to each heat exchanger or heat exchange system.

Repair Requirements for Heat Exchange Systems

§ 63.1087 What actions must I take if a leak is detected?

If a leak is detected, you must comply with the requirements in paragraphs (a) and (b) of this section unless repair is delayed according to §63.1088.

(a) Repair the leak as soon as practical but not later than 45 calendar days after you received the results of monitoring tests that indicated a leak. You must repair the leak unless you demonstrate that the results are due to a condition other than a leak.

(b) Once the leak has been repaired, use the monitoring requirements in §63.1086 within 7 calendar days of the repair or startup, whichever is later, to confirm that the heat exchange system has been repaired.

§ 63.1088 In what situations may I delay leak repair, and what actions must I take for delay of repair?

You may delay the repair of heat exchange systems if the leaking equipment is isolated from the process. You may also delay repair if repair is technically infeasible without a shutdown, and you meet one of the conditions in paragraphs (a) through (c) of this section.

(a) If a shutdown is expected within the next 2 months of determining delay of repair is necessary, you are not required to have a special shutdown before that planned shutdown.

(b) If a shutdown is not expected within the next 2 months of determining delay of repair is necessary, you may delay repair if a shutdown for repair would cause greater emissions than the potential emissions from delaying repair until the next shutdown of the process equipment associated with the leaking heat exchanger. You must document the basis for the determination that a shutdown for repair would cause greater emissions than the emissions likely to result from delay of repair. The documentation process must include the activities in paragraphs (b)(1) through (4) of this section.

(1) State the reason(s) for delaying repair.

(2) Specify a schedule for completing the repair as soon as practical.

(3) Calculate the potential emissions from the leaking heat exchanger by multiplying the concentration of HAP listed in Table 1 to this subpart (or other monitored substances) in the cooling water from the leaking heat exchanger by the flow rate of the cooling water from the leaking heat exchanger and by the expected duration of the delay.

(4) Determine emissions of HAP listed in Table 1 to this subpart (or other monitored substances) from purging and depressurizing the equipment that will result from the unscheduled shutdown for the repair.

(c) If repair is delayed because the necessary equipment, parts or personnel are not available, you may delay repair a maximum of 120 calendar days. You must demonstrate that the necessary equipment, parts or personnel were not available.

Recordkeeping and Reporting Requirements for Heat Exchange Systems

§ 63.1089 What records must I keep?

You must keep the records in paragraphs (a) through (e) of this section, according to the requirements of §63.1109(c).

- (a) Monitoring data required by §63.1086 that indicate a leak, the date the leak was detected, or, if applicable, the basis for determining there is no leak.
- (b) The dates of efforts to repair leaks.
- (c) The method or procedures used to confirm repair of a leak and the date the repair was confirmed.
- (d) Documentation of delay of repair as specified in §63.1088.
- (e) If you validate a 40 CFR part 136 method for the HAP listed in Table 1 to this subpart according to the procedures in appendix D to this part, then you must keep a record of the test data and calculations used in the validation.

§ 63.1090 What reports must I submit?

If you delay repair for your heat exchange system, you must report the delay of repair in the semiannual report required by §63.1110(e). If the leak remains unrepaired, you must continue to report the delay of repair in semiannual reports until you repair the leak. You must include the information in paragraphs (a) through (e) of this section in the semiannual report.

- (a) The fact that a leak was detected, and the date that the leak was detected.
- (b) Whether or not the leak has been repaired.
- (c) The reasons for delay of repair. If you delayed the repair as provided in §63.1088(b), documentation of emissions estimates.
- (d) If a leak remains unrepaired, the expected date of repair.
- (e) If a leak is repaired, the date the leak was successfully repaired.

Background for Waste Requirements

§ 63.1091 What do the waste requirements do?

This subpart requires you to comply with 40 CFR part 61, subpart FF, National Emission Standards for Benzene Waste Operations. There are some differences between the ethylene production waste requirements and those of subpart FF.

§ 63.1092 What are the major differences between the requirements of 40 CFR part 61, subpart FF, and the waste requirements for ethylene production sources?

The major differences between the requirements of 40 CFR part 61, subpart FF, and the requirements for ethylene production sources are listed in paragraphs (a) through (d) of this section.

- (a) The requirements for ethylene production sources apply to all ethylene production sources that are part of a major source. The requirements do not include a provision to exempt sources with a total annual benzene quantity less than 10 megagrams per year (Mg/yr) from control requirements.

- (b) The requirements for ethylene production sources apply to continuous butadiene waste streams which do not contain benzene quantities that would make them subject to the management and treatment requirements of 40 CFR part 61, subpart FF.
- (c) The requirements for ethylene production sources do not include the compliance options at 40 CFR 61.342(c)(3)(ii), (d) and (e) for sources with a total annual benzene quantity less than 10 Mg/yr.
- (d) If you transfer waste off-site, you must comply with the requirements in §63.1096 rather than 40 CFR 61.342(f).

Applicability for Waste Requirements

§ 63.1093 Does this subpart apply to my waste streams?

The waste stream provisions of this subpart apply to your waste streams if you own or operate an ethylene production facility expressly referenced to this subpart XX from subpart YY of this part. The provisions of subpart A (General Provisions) of this part do not apply to this subpart except as specified in a referencing subpart.

§ 63.1094 What waste streams are exempt from the requirements of this subpart?

The types of waste described in paragraphs (a) and (b) of this section are exempt from this subpart.

- (a) Waste in the form of gases or vapors that is emitted from process fluids.
- (b) Waste that is contained in a segregated storm water sewer system.

Waste Requirements

§ 63.1095 What specific requirements must I comply with?

For waste that is not transferred off-site, you must comply with the requirements in paragraph (a) of this section for continuous butadiene waste streams and paragraph (b) of this section for benzene waste streams. If you transfer waste off-site, you must comply with the requirements of §63.1096.

- (a) Continuous butadiene waste streams. Manage and treat continuous butadiene waste streams that contain greater than or equal to 10 ppmv 1,3-butadiene and have a flow rate greater than or equal to 0.02 liters per minute, according to either paragraph (a)(1) or (2) of this section. If the total annual benzene quantity from waste at your facility is less than 10 Mg/yr, as determined according to 40 CFR 61.342(a), the requirements of paragraph (a)(3) of this section apply also.
 - (1) Route the continuous butadiene stream to a treatment process or wastewater treatment system used to treat benzene waste streams that complies with the standards specified in 40 CFR 61.348. Comply with the requirements of 40 CFR part 61, subpart FF; with the changes in Table 2 to this subpart, and as specified in paragraphs (a)(1)(i) through (v) of this section.
 - (i) Determine the butadiene concentration of the waste stream according to 40 CFR 61.355(c)(1) through (3), except substitute “1,3-butadiene” for each occurrence of “benzene.” You may validate 40 CFR part 136 methods for 1,3-butadiene according to the procedures in appendix D

to this part. You do not need to determine the butadiene concentration of a waste stream if you designate that the stream must be controlled.

(ii) Comply with 40 CFR 61.342(c)(1)(ii) and (iii) for each waste management unit that receives or manages the waste stream prior to and during treatment or recycling of the waste stream.

(iii) Comply with the recordkeeping requirements in 40 CFR 61.356(b), (b)(1) and (b)(2), except substitute “1,3-butadiene” for each occurrence of “benzene” and “continuous butadiene waste stream” for each occurrence of “waste stream.”

(iv) Comply with the reporting requirements in 40 CFR 61.357(a), (a)(2), (a)(3), (a)(3)(iii) through (v), and (d)(1) and (2), except substitute “1,3-butadiene” for each occurrence of “benzene” and “continuous butadiene waste stream” for each occurrence of “waste stream.”

(v) Include only the information in 40 CFR 61.357(a)(2) and (a)(3)(iii) through (v) in the report required in 40 CFR 61.357(a) and (d)(2).

(2) Comply with the process wastewater requirements of subpart G of this part. Submit the information required in §63.146(b) in the Notification of Compliance Status required by §63.1110(d). Submit the information required in §63.146(c) through (e) in either the Periodic Reports required in §63.152 or the Periodic Reports required in §63.1110(e).

(3) If the total annual benzene quantity from waste at your facility is less than 10 Mg/yr, as determined according to 40 CFR 61.342(a), comply with the requirements of this section at all times except during periods of startup, shutdown, and malfunction, if the startup, shutdown, or malfunction precludes the ability of the affected source to comply with the requirements of this section and the owner or operator follows the provisions for periods of startup, shutdown, and malfunction, as specified in §63.1111.

(b) Benzene waste streams. For benzene-containing streams, you must comply with the requirements of 40 CFR part 61, subpart FF, except as specified in Table 2 to this subpart. You must manage and treat waste streams as specified in either paragraph (b)(1) or (2) of this section.

(1) If the total annual benzene quantity from waste at your facility is less than 10 Mg/yr, as determined according to 40 CFR 61.342(a), manage and treat spent caustic waste streams and dilution steam blowdown waste streams according to 40 CFR 61.342(c)(1) through (c)(3)(i). The requirements of this paragraph (b)(1) shall apply at all times except during periods of startup, shutdown, and malfunction, if the startup, shutdown, or malfunction precludes the ability of the affected source to comply with the requirements of this section and the owner or operator follows the provisions for periods of startup, shutdown, and malfunction, as specified in §63.1111.

(2) If the total annual benzene quantity from waste at your facility is greater than or equal to 10 Mg/yr, as determined according to 40 CFR 61.342(a), you must manage and treat waste streams according to any of the options in 40 CFR 61.342(c)(1) through (e).

§ 63.1096 What requirements must I comply with if I transfer waste off-site?

If you elect to transfer waste off-site, you must comply with the requirements in paragraphs (a) through (d) of this section.

(a) Include a notice with the shipment or transport of each waste stream. The notice shall state that the waste stream contains organic HAP that are to be treated in accordance with the provisions of this subpart. When the transport is continuous or ongoing (for example, discharge to a publicly-owned treatment works), the notice shall be submitted to the treatment operator initially and whenever there is a change in the required treatment.

(b) You may not transfer the waste stream unless the transferee has submitted to the Administrator a written certification that the transferee will manage and treat any waste stream received from a source subject to the requirements of this subpart in accordance with the requirements of this subpart.

(c) By providing this written certification to the Administrator, the certifying entity accepts responsibility for compliance with the regulatory provisions in this subpart with respect to any shipment of waste covered by the written certification. Failure to abide by any of those provisions with respect to such shipments may result in enforcement action by EPA against the certifying entity in accordance with the enforcement provisions applicable to violations of those provisions by owners or operators of sources.

(d) The certifying entity may revoke the written certification by sending a written statement to the Administrator and you. The notice of revocation must provide at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the regulatory provisions of this subpart. Upon expiration of the notice period, you may not transfer the waste stream to that off-site treatment operation. Written certifications and revocation statements to the Administrator from the transferees of waste shall be signed by the responsible official of the certifying entity, provide the name and address of the certifying entity, and be sent to the appropriate EPA Regional Office at the addresses listed in 40 CFR 63.13. Such written certifications are not transferable by the treater to other off-site waste treatment operators.

Implementation and Enforcement

§ 63.1097 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. Environmental Protection Agency (EPA), or a delegated authority such as the applicable State, local, or tribal agency. If the EPA Administrator has delegated authority to a State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. Contact the applicable EPA Regional Office to find out if this subpart is delegated.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(1) Approval of alternatives to the nonopacity emissions standards in §§63.1085, 63.1086 and 63.1095, under §63.6(g). Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(2) [Reserved]

(3) Approval of major changes to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(4) Approval of major changes to monitoring under §63.8(f) and as defined in §63.90.

(5) Approval of major changes to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

Table 1 to Subpart XX of Part 63—Hazardous Air Pollutants

Hazardous air pollutant	CAS No.
Benzene	71432
1,3-Butadiene	106990
Cumene	98828
Ethyl benzene	100414
Hexane	110543
Naphthalene	91203
Styrene	100425
Toluene	108883
o-Xylene	95476
m-Xylene	108383
p-Xylene	106423

Table 2 to Subpart XX of Part 63—Requirements of 40 CFR Part 61, Subpart FF, Not Included in the Requirements for This Subpart and Alternate Requirements

If the total annual benzene quantity for waste from your facility is	Do not comply with:	Instead, comply with:
1. Less than 10 Mg/yr	40 CFR 61.340	§ 63.1093.
	40 CFR 61.342(c)(3)(ii), (d), and (e).	There is no equivalent requirement.
	40 CFR 61.342(f).	§ 61.1096.
	40 CFR 61.355(j) and (k).	There is no equivalent requirement.
	40 CFR 61.356(b)(2)(ii), (b)(3) through (b)(5).	There is no equivalent requirement.
	The requirement to submit the information required in 40 CFR 61.357(a) to the Administrator within 90 days after January 7, 1993.	The requirement to submit the information required in 40 CFR 61.357(a) as part of the Initial Notification required in 40 CFR 63.1110(c).
	The requirement in 40 CFR 61.357(d) to submit the information in 40 CFR 61.357(d)(1) and (d)(2) if the TAB quantity from your facility is equal to or greater than 10 Mg/yr.	The requirement to submit the information in 40 CFR 61.357(d)(1) and (d)(2) for spent caustic, dilution steam blowdown, and continuous butadiene waste streams.
	The requirement in 40 CFR 61.357(d)(1) to submit the information required in 40 CFR 63.357(d)(1) to the Administrator within 90 days after January 7, 1993.	The requirement to submit the information required in 40 CFR 61.357(d)(1) as part of the Notification of Compliance Status required in 40 CFR 63.1110(d).
	40 CFR 61.357(d)(3) through (d)(5).	There is no equivalent requirement.
2. Greater than or equal to 10 Mg/yr.	40 CFR 61.340.	§ 61.1093.
	40 CFR 61.342(f).	§ 61.1096.
	The requirement to submit the information required in 40 CFR 61.357(a) to the Administrator within 90 days after January 7, 1993.	The requirement to submit the information required in 40 CFR 61.357(a) as part of the Initial Notification required in 40 CFR 63.1110(c).
	The requirement in 40 CFR 61.357(d) to submit the information in 40 CFR 61.357(d)(1) and (d)(2) if the TAB quantity from your facility is equal to or greater than 10 Mg/yr.	The requirement to submit the information in 40 CFR 61.357(d)(1) and (d)(2) as part of the Notification of Compliance Status required in 40 CFR 63.1110(d).

XII Appendix H: DNR Air Quality Policy 3-b-08 (Opacity Limits)

1998 NOV 13 4

IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

POLICY/PROCEDURE STATEMENT

TOPIC: <u>Opacity Limits</u>

Policy Procedure Number: 3-b-08

Replaces Number: None

Date:

Effective Date: November 12, 1998

Preparer: David Phelps

Reviewer:

Approval: **Bureau Chief:** Peter Hamlin

Date: 11/12/98

Division Administrator: Allan Stokes

Date: 11/12/98

Applicable Code of Iowa or Iowa Administrative Code Rule: 23.3(2)d

“No person shall allow, cause or permit the emission of visible air contaminants into the atmosphere from any equipment, internal combustion engine, premise fire, open fire or stack, equal to or in excess of 40 percent opacity or that level specified in a construction permit, except as provided below and in 567-Chapter 24.”

REASON OR BACKGROUND

The default opacity limit allowed by regulation is 40%. This limit was established with the original regulations in 1970. It is generally accepted that opacity greater than 40% was evidence of a mass emission standard exceedence. More recently, there have been requests from facilities for limits much lower than that allowed by the regulations, in some cases less than 0.01 gr/scf to which a 40% opacity limit does not correspond. Since opacity is used as an indicator of the particulate emission rate, listing an indicated potential problem opacity that is more in line with the mass emission rate is useful. In order to have the authority to set limits lower than 40%, subrule 23.3(2)d was changed. This change allows the department the ability to set opacity limits at a level that more closely corresponds to what would be observed by the source when operating in compliance with its mass emission rate.

Except in the case where a specific opacity limit is established by rule, it has been the general policy of the Department not to take action on opacity limits directly. Rather, if it is felt that a violation of the mass emission rate exists that is not attributable to some abnormal event, a stack test would be required to verify compliance. However, the Department reserves the right to use the results of formal opacity readings as evidence of an exceedence.

DETAILS

It shall be the policy of the Department to list the default opacity as a permit condition and in addition an indicator opacity may be listed.

For ease of proving continual compliance a source may request a 'no visible emissions' opacity limit which allows proof of compliance without having a certified opacity reading taken. In this case any visible emissions would be an exceedence.

The IDNR permit writer may list an opacity that will be a indicator of possible mass emission rate exceedence. If the permittee wishes, the recommended indicator opacity may be changed by demonstrating compliance with the mass emission rate during a stack test while emitting the new desired indicator opacity. If the tested mass emission rate is less than the permitted emission rate, then the desired indicator opacity may be set at a proportionally higher level than observed during the stack test.

If an opacity measurement, taken in accordance with an approved reference method for opacity, (generally USEPA Method 9 or 22) exceeds the indicator opacity then the facility will promptly investigate the source and make corrections. However, if after corrections are made the opacity continues to exceed the indicator opacity the Department may require additional proof to demonstrate compliance with the mass emissions limits.

Recommended indicator opacities shall be:

Grain Loading gr./scf	Recommended Indicator Opacity
<0.01 gr./scf	non specified in permit *
0.01 to 0.06 gr./scf	10% Opacity
0.061 to 0.08 gr./scf	20% Opacity
0.081 to 0.1 gr./scf	25% Opacity

* A line is added to the permit that states: "If visible emissions are observed other than start-up, shut-down, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard."

If a source is a batch process the indicator opacity shall be based on the table above, but the opacity averaging period, for comparison to the indicator opacity, shall be the entire batch cycle. For purposes of comparison the indicator opacity readings shall be taken during the entire cycle and averaged.

Sources are also given the opportunity to set source specific limits to be coordinated with the initial compliance test. These may then be incorporated into the permit.

In all cases an exceedence of the indicator opacity will require the permittee to file an "indicator opacity exceedence report" to the IDNR regional office. The reporting requirements shall be:

Oral report of excess indicator opacity. An incident of excess indicator opacity (other than an incident of excess indicator opacity during a period of startup, shutdown, or cleaning) shall be reported to the appropriate regional office of the department within eight hours of, or at the start of the first working day following the onset of the of the incident. The reporting exemption for an incident of excess indicator opacity during startup and shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in subrule 25.1(6).

An oral report of excess indicator opacity is not required for a source with operational continuous monitoring equipment (as specified in subrule 25.1(1) if the incident of excess indicator opacity continues for less than 30 minutes and does not exceed the applicable visible emission standard by more than 10 percent opacity.

The oral report may be made in person or by telephone and shall include as a minimum the following:

- a) The identity of the equipment or source operation from which the excess indicator opacity originated and the associated stack or emission point.
- b) The estimated quantity of the excess indicator opacity.
- c) The time and expected duration of the excess indicator opacity.
- d) The cause of the excess indicator opacity.
- e) The steps being taken to remedy the excess indicator opacity.
- f) The steps being taken to limit the excess indicator opacity in the interim period.

Written report of excess indicator opacity. A written report of an incident of excess indicator opacity shall be submitted as a follow-up to all required oral reports to the department within seven (7) days of the onset of the upset condition, and shall include as a minimum the following:

- a) The identity of the equipment or source operation point from which the excess emission originate and the associated stack or emission point.
- b) The estimated quantity of the excess indicator opacity.
- c) The time and duration of the excess indicator opacity.
- d) The cause of the excess indicator opacity.
- e) The steps that were taken to remedy and to prevent the recurrence of the incident of excess indicator opacity.
- f) The steps that were taken to limit the excess indicator opacity.
- g) If the owner claims that the excess indicator opacity was due to malfunction, documentation to support this claim.

Exceptions to this policy:

- 1) In the case where a facility has an opacity limit established in an existing permit, no change will be made to that permit limit unless the permit is being modified for other purposes.
- 2) If the facility has a continuous opacity monitor, this policy shall not apply.
- 3) This policy shall not apply to opacity limits established in Prevention of Significant Deterioration (PSD) permits or permits that were established for maintenance plans for nonattainment areas.
- 4) This policy shall not apply where an opacity limit is established as an indication of hazardous air pollutants.

- 5) This policy shall not apply where an opacity limit is established by a rule, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPS), etc.